

REVISION OF AUSTRALIAN LEPIDOPTERA.

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III.

The families which form the subject of the present instalment are the *Hepialidae*, which must be regarded as the ancestral family of the *Bombycina*, and the *Monocteniadae*, the most characteristically Australian family of the *Geometrina*.

HEPIALIDAE.

Ocelli absent. Tongue generally obsolete. No maxillary palpi. Antennæ not more than half forewings. Tibiæ without spurs. Forewings with all main veins and costa connected by cross bars near base, 1 furcate towards base (furcation appearing as a parallel vein connected by terminal bar), 9 and 10 stalked, 11 from near base, forked parting-vein well-defined. Hindwings without frenulum; 1c present; neuration essentially identical with forewings.

This curious family is sharply defined and easily recognised by the peculiar type of neuration, which is practically identical in the forewings and hindwings. I regard it as clearly established that this character, now exceptional in the *Lepidoptera*, is ancestral. In the development of the order a tendency to reduction in size of the hindwings, and simplification of their neuration, was very early manifested; with the result that in almost all other families the normal number of veins in the hindwings is less by four than in the forewings. The basal cross bars are also an original character, very early lost. I have explained elsewhere (Trans. N.Z. Inst. 1885, 180) that these characters indicate the origin of

the *Lepidoptera* from the *Trichoptera*, and in the case of *Tineina* the transitional steps are all preserved. It seems to me an inevitable conclusion that the *Bombycina* originate by a parallel line of development through the *Hepialidae* from the same source; but at present, so far as my material enables me to judge, the transitional forms on both sides of the *Hepialidae* are missing, so that the family stands isolated. In this respect the Australian forms, though interesting, add nothing to our knowledge, and do not help to diminish the gaps.

The species are often extremely variable, and the descriptions are therefore necessarily made loose. The larvæ feed either in the stems of trees and shrubs, or beneath the ground on roots. The family is of universal distribution, but nowhere represented by any large number of species; probably the Australian species are more numerous than those of any similar region. In New Zealand there are nine species, all endemic, but belonging entirely to two Australian genera, *Porina* and *Hepialus*. The following is a tabulation of the eight Australian genera.

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|--|-------------------------|
| 1. Forewings with vein 8 out of 10..... | 2. |
| Forewings with vein 8 not out of 10..... | 3. |
| 2. Forewings with vein 11 out of 10..... | 1. <i>Perissectis</i> . |
| Forewings with vein 11 separate..... | 2. <i>Porina</i> . |
| 3. Forewings with veins 7 and 8 stalked..... | 4. <i>Hectomanes</i> . |
| Forewings with veins 7 and 8 not stalked..... | 4. |
| 4. Antennæ subclavate..... | 3. <i>Oncoptera</i> . |
| Antennæ not subclavate..... | 5. |
| 5. Antennæ in ♂ tripectinated..... | 8. <i>Trictena</i> . |
| Antennæ in ♂ not tripectinated | 6. |
| 6. Antennæ in ♂ unipectinated..... | 7. <i>Pielus</i> . |
| Antennæ in ♂ not unipectinated | 7. |
| 7. Hindwings in ♂ partially tufted with long
rough hairs..... | 6. <i>Leto</i> . |
| Hindwings in ♂ not partially tufted with long
rough hairs | 5. <i>Hepialus</i> . |

1. PERISSECTIS, n.g.

Antennæ $\frac{1.1}{5.6}$, in ♂ stout, joints incised, simple. Palpi moderate, straight, porrected, basal and second joints clothed with dense rough projecting scales, terminal joint moderate, smooth, cylindrical. Posterior tibiæ densely rough-haired. Forewings with vein 7 from angle, 8 and 9 out of 10, 11 out of 10 above 8. Hindwings as in forewings.

Endemic; a special development of *Porina*.

1. *Per. australasiae*, Don.

(*Hepialus australasiae*, Don. Ins. New Holl., Walk. Bomb. 1558; *Elhamma inconclusa*, Walk. Bomb. 1562; *Pielus invarius*, Walk. Suppl. 599.)

♂. 37-42 mm., ♀. 52-85 mm. Head and thorax ochreous or brownish, often reddish-tinged. Antennæ light ferruginous. Abdomen light ochreous, reddish-tinged. Forewings elongate, subtriangular, costa slightly arched, apex rectangular, hindmargin obliquely rounded continuously with inner margin, in ♀ wing much more elongate and hindmargin more oblique; ochreous, more or less rosy-tinged, especially in ♀, thinly sprinkled with dark fuscous, and generally suffusedly spotted and marbled throughout with cloudy fuscous, more distinctly in ♂; usually more or less distinct darker fuscous irregular band from $\frac{1}{3}$ of inner margin to apex, sometimes quite obsolete: cilia whitish-ochreous, base fuscous, barred with dark fuscous. Hindwings in ♂ yellow-ochreous, slightly rosy-tinged, sometimes more or less infuscated except towards base; in ♀ pale ochreous-rosy, apex more ochreous.

Sydney and Blackheath (3500 feet), New South Wales; Melbourne, Victoria; from February to April, common.

2. PORINA, Walk.

Antennæ $\frac{1.2}{4.5}$, in ♂ bipectinated or more or less shortly bidentate. Palpi moderate, porrected, basal joint rough-haired, second joint rough-haired or almost smooth, terminal joint smooth, sometimes

subclavate. Posterior tibiæ densely rough-haired. Forewings with vein 7 from angle, 8 and 9 out of 10, rising much before angle. Hindwings as in forewings.

Easily known by the neurulation; the antennal characters vary specifically in the ♂, and all gradations can be found from strong pectinations to extremely short hardly noticeable dentations; they are very serviceable for specific distinction, but afford no practicable basis for generic separation. The genus is characteristic of Australia and New Zealand, but I have also seen a species from South Africa.

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|---|---------------------------|
| 1. Forewings with conspicuous blackish spot
above inner margin | 9. <i>sphragidias</i> . |
| Forewings without conspicuous blackish
spot above inner margin | 2. |
| 2. Hindwings red towards base | 6. <i>rufescens</i> . |
| Hindwings not red towards base..... | 3. |
| 3. Antennal pectinations of ♂ 5..... | 2. <i>fuscomaculata</i> . |
| Antennal pectinations of ♂ not over 3..... | 4. |
| 4. Antennal pectinations of ♂ 3 | 5. |
| Antennal pectinations of ♂ 1-1½..... | 7. |
| 5. Forewings with numerous white spots | 6. |
| Forewings with discal white mark only..... | 5. <i>determinata</i> . |
| 6. Forewings with two posterior series of white
spots | 7. <i>niphadias</i> . |
| Forewings with more than two posterior
series of white spots | 3. <i>australis</i> . |
| 7. Forewings with silvery-white discal spots... | 4. <i>dirempta</i> . |
| Forewings without silvery-white discal spots | 8. <i>subvaria</i> . |

2. *Por. fuscomaculata*, Walk.

(*Oxycaenus fuscomaculatus*, Walk. Bomb. 1574; *O. pardalinus*, Walk. Suppl. 598.)

♂♀. 65-73 mm. Head and thorax dark fuscous or ochreous-brown. Antennæ yellowish-ochreous, pectinations 5. Abdomen

yellowish-ochreous, more or less suffused with fuscous. Forewings rather elongate-triangular, costa posteriorly gently arched, apex obtuse, hindmargin oblique, gently rounded continuously with inner margin; ochreous-brown or dark brown, sometimes lighter in disc, often irrorated with ochreous-whitish; five or six tolerably parallel curved transverse series of small triangular or trapezoidal dark fuscous spots, sometimes centred with ochreous; rarely a cloudy suffused white longitudinal streak in disc; a hindmarginal series of small dark fuscous spots: cilia fuscous or ochreous. Hindwings yellow-ochreous, more or less suffused with fuscous posteriorly; sometimes a faint posterior series of small fuscous spots; cilia brownish-ochreous.

Melbourne, Victoria; Launceston, Tasmania; Adelaide, South Australia; twelve specimens. The longer antennal pectinations (5) will distinguish this at once from all others.

3. *Por. australis*, Walk.

(*Oxycanus australis*, Walk. Bomb. 1574; *Pielus maculosus*, Feld. pl. LXXXI. 1.)

♂. 68-84 mm. Head and thorax fuscous. Antennal pectinations 3. Forewings ochreous-fuscous; numerous irregular small silvery-white dark-margined spots, larger and more irregular anteriorly, posteriorly arranged in three transverse series: cilia fuscous. Hindwings ochreous, fuscous-tinged.

Tasmania; five specimens.

4. *Por. dirempta*, Walk.

(*Porina dirempta*, Walk. Suppl. 597.)

♂. 68 mm. Head and thorax rather dark fuscous. Antennal pectinations $1\frac{1}{2}$, terminating in tufts of cilia. Abdomen yellow-ochreous. Forewings fuscous, becoming ochreous in disc anteriorly; anterior half of costa suffused with dark fuscous; a whitish longitudinal streak in disc from base, suffused on posterior half into a broad fuscous-whitish cloud extending to anal angle;

two small triangular silvery-whitish dark-margined spots on upper margin of this before middle ; two or three partial series of small white dark-margined spots towards costa posteriorly. Hindwings yellow-ochreous.

South Australia ; one specimen (Brit. Mus. Coll.). Probably this species may vary much in markings, and the form described has hardly the appearance of being typical, but the antennal characters are sufficient to distinguish it.

5. *Por. determinata*, Walk.

(*Elhamma determinata*, Walk. Bomb. 1563.)

♂. 58 mm. Head and thorax rather dark ochreous-fuscous. Antennal pectinations 3 (obscured through mould). Forewings ochreous-fuscous, with several obscure transverse series of sub-confluent darker spots ; an oblique transverse silvery-white mark, appearing to be composed of three small confluent spots, in middle of disc, preceded and followed by a darker fuscous suffusion. Hindwings ochreous-fuscous.

West Australia (?) ; one specimen (Brit. Mus. Coll.).

6. *Por. rufescens*, Walk.

(*Oxycanus rufescens*, Walk. Bomb. 1575.)

♂. 60 mm. Head and thorax rather dark fuscous. Antennal pectinations $2\frac{1}{2}$. Abdomen suffused with red towards base. Forewings fuscous ; two or three anterior dark fuscous dots in disc, and two posterior series of fuscous dots, all surrounded by ochreous rings ; two silvery-white dark-margined adjacent dots in centre of disc. Hindwings dull fuscous-ochreous, towards base suffused with red.

Tasmania ; one specimen (Brit. Mus. Coll.).

7. *Por. niphadias*, n.sp.

♂. 47 mm. Head dark fuscous. Antennæ yellow-ochreous, pectinations 3. Thorax ochreous-fuscous, anteriorly darker. Abdomen light brownish-ochreous. Forewings elongate, sub-

triangular, costa sinuate, posteriorly moderately arched, apex rounded, hindmargin obliquely rounded continuously with inner margin; fuscous, darker towards base of costa; two cloudy whitish spots obliquely placed in disc at $\frac{1}{3}$, and an irregular short longitudinal whitish mark in middle of disc; two nearly straight transverse series of subtriangular subconfluent whitish spots, not reaching either margin, first at $\frac{2}{3}$, second at $\frac{5}{6}$: cilia rather dark fuscous. Hindwings pale ochreous-fuscous, becoming more yellowish-ochreous towards base; cilia rather dark fuscous.

Mount Lofty, South Australia; one specimen received from Mr. E. Guest.

8. *Por. subvaria*, Walk.

(*Elhamma subvaria*, Walk. Bomb. 1562; *Oxycanus subvarius*, ib. 1575.)

♂. 41-55 mm. Head and thorax dark ochreous-fuscous. Antennal pectinations 1. Forewings ochreous-fuscous; two or three small scattered fuscous sometimes pale-centred spots in disc, and two posterior series of similar spots; a hindmarginal series of small fuscous spots: cilia ochreous or fuscous. Hindwings light ochreous-fuscous, sometimes with two posterior series of small fuscous spots.

Tasmania; three specimens (Brit. Mus. Coll.). The species has shorter antennal pectinations than in any other Australian form, excepting the following. There can be no doubt that Walker's two descriptions quoted above are actually drawn from the same specimens, though he appears in his catalogue to place them as a distinct species.

9. *Por. sphragidias*, n.sp.

♂. 56 mm. Head and thorax ochreous-brown. Antennæ light ferruginous, shortly dentate. Abdomen fuscous, apex deep ochreous. Forewings elongate-oblong, posteriorly hardly dilated, costa gently arched, apex obtuse, hindmargin obliquely rounded continuously with inner margin; deep yellow-ochreous, irregularly irrorated with ochreous-brown and dark fuscous; the absence of irroration

forms three series of moderate irregular subconfluent spots, first about $\frac{1}{4}$, strongly curved, second about middle, nearly obsolete on lower half, third about $\frac{3}{4}$, slightly curved; an ill-defined dark fuscous irregular cloudy longitudinal streak in disc from base to near hindmargin; a conspicuous subtriangular blackish-fuscous spot above inner margin at $\frac{1}{3}$; a smaller transverse-oval ochreous-white spot near beyond this: cilia yellow-ochreous, tips paler, sharply barred with dark fuscous. Hindwings rather dark fuscous; costa, a hindmarginal line, and veins posteriorly suffused with bright deep yellow-ochreous; cilia as in forewings.

Tasmania (?); two specimens received from Mr. A. Simson.

3. ONCOPTERA, Walk.

Antennæ $\frac{1}{6}$, gradually swollen towards apex so as to appear subclavate, simple, basal joint with a tuft of hairs projecting over eye. Palpi moderate, straight, porrected, slender, wholly clothed with long rough projecting hairs. All tibiæ densely rough-scaled; posterior tibiæ in ♂ with a very large broad curved tuft of very long hairs rising from above near base, and lying along abdomen. Forewings with vein 7 from angle, 8 from near before angle, 9 and 10 stalked. Hindwings as in forewings.

A curious form, differing from all others in the antennæ. Walker writes the generic name *Oncopera*, quoting it as a MS. name of Stephens, who evidently intended the orthographically correct name which I have restored above.

10. *Onc. intricata*, Walk.

(*Oncopera intricata*, Walk. Bomb. 1559.)

♂. 31-41 mm., ♀. 48 mm. Head, antennæ, thorax, and abdomen fuscous or ochreous-fuscous. Forewings suboblong, posteriorly somewhat dilated, costa slightly arched, apex rounded, hindmargin obliquely rounded continuously with inner margin; ochreous, ochreous-brown, or dark fuscous; generally more or less distinctly marbled with irregular paler or whitish markings, including rounded darker spots sometimes marked with blackish, but these

markings are sometimes wholly confused or obsolete; a pale oblique mark from inner margin near base, margined on each side with blackish, is generally conspicuous but sometimes obsolete: cilia with basal half ochreous-brown, terminal half white, sharply barred with dark fuscous. Hindwings rather dark fuscous; costa in ♂ suffused with whitish-ochreous or yellow-ochreous; cilia as in forewings.

Melbourne and Warragul, Victoria; Deloraine and Hobart, Tasmania; from October to December, common. A very variable species.

4. HECTOMANES, n.g.

Antennæ $\frac{1}{5}\frac{1}{2}$, in ♂ shortly bipectinated throughout. Tongue present, short. Palpi very short, clothed with long rough projecting hairs. All tibiae and anterior tarsi clothed with dense rough hairs. Forewings with veins 7 and 8 stalked from angle, 9 and 10 stalked from near before angle, 11 from before middle. Hindwings as in forewings, but veins 7 and 8 sometimes from a point.

Differs from all in the structure of veins 7 and 8. Walker has applied the generic name *Fraus* to a species of this genus, but upon investigation it appears (1) that he adopted it as a MS. name of Stephens, (2) that he misread it, Stephens having apparently intended to write *Praus*, and (3) that this name (Gk. *πραύς*) ought to be written *Prays*, and it is therefore already preoccupied by Curtis for a genus of *Lepidoptera*; I have accordingly rejected Walker's name.

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| 1. Forewings reddish-ochreous..... | 12. <i>simulans</i> ♂. |
| Forewings fuscous..... | 2. |
| 2. Forewings with strong white streak from base
to apex..... | 12. <i>simulans</i> ♀. |
| Forewings with streak incomplete or absent... | 3. |
| 3. Cilia fuscous..... | 11. <i>noserodes</i> . |
| Cilia whitish-ochreous, barred with fuscous... | 13. <i>polyspila</i> . |

11. *Hect. noserodes*, n.sp.

♂. 30-35 mm. Head and thorax fuscous or dark fuscous. Antennæ and abdomen fuscous. Forewings elongate-oblong, posteriorly somewhat dilated, costa gently arched, apex rounded, hindmargin very obliquely rounded continuously with inner margin; fuscous or whitish-fuscous; numerous darker fuscous dots, tending to be arranged in longitudinal and transverse series, sometimes surrounded with fuscous-whitish rings; sometimes a straight very slender fuscous-whitish longitudinal streak from base to $\frac{2}{3}$, suffusedly margined above with dark fuscous, sometimes obsolete: cilia fuscous. Hindwings fuscous or whitish-fuscous.

Sydney, New South Wales; three specimens, in May.

12. *Hect. simulans*, Walk.

(*Fraus simulans*, Walk. Bomb. 1564; *F. bilineata*, ib. Suppl. 595).

♂. 22-25 mm. Head, antennæ, thorax and abdomen deep reddish-ochreous. Forewings suboblong, posteriorly somewhat dilated, costa faintly sinuate, apex rounded, hindmargin obliquely rounded continuously with inner margin; deep reddish-ochreous or ferruginous; a slender somewhat irregular straight white longitudinal streak in disc from $\frac{1}{5}$ to about $\frac{4}{5}$, sometimes wholly absent; traces of fuscous dots posteriorly: cilia reddish-ochreous. Hindwings rather dark fuscous; cilia reddish-ochreous; more or less mixed with dark fuscous.

♀. 32-36 mm. Head, antennæ, thorax, and abdomen fuscous. Forewings much more elongate and hindmargin more oblique than in ♂; fuscous, veins indistinctly streaked with reddish-ochreous; costal edge whitish-ochreous from near base to near apex; a moderate straight silvery-white longitudinal streak in disc from base, near hindmargin bent upwards to terminate in apex, on posterior half margined beneath with light ochreous-reddish; beneath this a series of obscure silvery-whitish short longitudinal streaks between veins before hindmargin, becoming larger down-

wards, terminating in a slender silvery-whitish streak along hind-margin : cilia whitish-fuscous, with a basal reddish-ochreous line. Hindwings fuscous-grey.

Sydney and Blackheath (3500 feet), New South Wales ; Warragul, Victoria ; Tasmania ; March to May, common.

13. *Hect. polyaspila*, n.sp.

♂. 31 mm. Head, antennæ, and thorax ochreous-fuscous. Abdomen light brownish-ochreous. Forewings elongate-triangular, costa sinuate, apex rounded, hindmargin obliquely rounded continuously with inner margin ; fuscous ; veins and a broad costal streak pale ochreous ; costal edge dark fuscous on basal $\frac{2}{3}$; fuscous portion strewn with numerous irregular suboval moderate whitish spots : cilia whitish-ochreous, slenderly barred with fuscous. Hindwings pale fuscous ; costa and veins towards costa posteriorly ochreous ; cilia as in forewings.

Wimmera, Victoria ; one specimen.

5. *HEPIALUS*, F.

Antennæ $\frac{1}{4}$ – $\frac{1}{8}$, in ♂ simple. Palpi short or moderate, porrected, with rough projecting hairs, terminal joint naked, subclavate. Posterior tibiæ densely rough-haired, sometimes with long projecting tuft above in ♂. Forewings with vein 7 from angle, 8 from much before angle, 9 and 10 stalked from near 8. Hindwings as in forewings.

The Australian species of this genus, which are all more or less green, have generally been regarded as a distinct genus, under the name of *Charagia*, but I am unable to discover any structural difference from ordinary forms of the northern hemisphere, where the genus is mainly resident. I cannot therefore separate them generically, but they form an interesting subgroup. The larvæ of the Australian species feed in tunnels in the stems of trees or shrubs, eating by preference the bark round the mouth of the tunnel, and concealing themselves meanwhile under a broad

shelter of silk and refuse. The perfect insects are very retired in habit, and are rarely obtained except by breeding the larvæ. The notes on larvæ following are taken from Scott.

If the name *Hepialus* is derived from the Greek ἡπιᾱλος, it should of course be written without the aspirate; but it appears to me that this derivation is very doubtful, and that without more certainty it is undesirable to vary the usually adopted form.

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|---|-----------------------------|
| 1. Forewings purple or fuscous-reddish,
with green markings | 2. |
| Forewings green, with white or brown
markings..... | 4. |
| 2. Forewings anteriorly with a triangular
green blotch..... | 3. |
| Forewings anteriorly with a sinuate
green longitudinal band..... | 14. <i>Lewinii</i> ♀. |
| 3. Forewings with subapical blotch con-
nected with anterior blotch..... | 15. <i>lignivorus</i> ♀. |
| Forewings with subapical blotch
separate | 16. <i>splendens</i> ♀. |
| 4. Hindwings yellow or red..... | 5. |
| Hindwings white or green | 8. |
| 5. Forewings with markings brown. | 17. <i>Scotti</i> ♀. . |
| Forewings with markings silvery-white | 6. |
| 6. Forewings with inner margin suffused
with red | 20. <i>argyrographus</i> ♀. |
| Forewings with inner margin not
suffused with red | 7. |
| 7. Hindwings with apex greenish..... | 19. <i>scriptus</i> ♀. |
| Hindwings with apex not greenish | 18. <i>Ramsayi</i> ♀. |
| 8. Forewings with white costal streak.... | 9. |
| Forewings without white costal streak | 11. |
| 9. Forewings with three white fasciæ..... | 16. <i>splendens</i> ♂. |
| Forewings with one white fascia | 10. |

10. Forewings with two white streaks from inner margin before middle 14. *Lewinii* ♂.
 Forewings with one white streak from inner margin before middle..... 15. *lignivorus* ♂.
 11. Forewings with a posterior golden fascia 21. *eximius* ♂.
 Forewings without a posterior golden fascia 12.
 12. Forewings with one posterior white fascia 18. *Ramsayi* ♂.
 Forewings with four posterior white fasciæ 19. *scriptus* ♂.

14. *Hep. Lewinii*, Walk.

(*Charagia Lewinii*, Walk. Bomb. 1570; Scott, Trans. Ent. Soc. N.S. Wales, II. 30; *C. Lamberti*, Walk. Bomb. 1571.)

♂. 44 mm. Head and thorax green. Forewings green; markings silvery-white; a streak along costa from base to $\frac{3}{4}$; a slender nearly perpendicular streak from inner margin at $\frac{1}{5}$, reaching half across wing; a similar streak near beyond it, from apex of which proceeds a streak (forming an acute angle with it) to $\frac{2}{3}$ of inner margin, where it meets a straight slender transverse streak from $\frac{3}{4}$ of costa. Hindwings greenish-whitish.

♀. 58 mm. Head and thorax dark fuscous-red. Forewings fuscous-reddish; a rather broad irregular green band from disc near base to near inner margin in middle, where it forms an acute angle, thence bent up to beneath costa at $\frac{3}{5}$; a small green spot towards hindmargin in middle, sometimes connected with this band. Hindwings ochreous-rosy.

Sydney, New South Wales; rather common. Larva on *Casuarina* and other trees.

15. *Hep. lignivorus*, Lw.

(*Hepialus lignivora*, Lw. Ins. N. S. Wales, pl. 16; *Charagia lignivora*, Scott, Austr. Lep. 5, pl. ii. Trans. Ent. Soc. N. S. Wales, II. 29.)

♂. 40-48 mm. Head whitish. Antennæ reddish-ochreous. Thorax green, anterior margin and posterior crest white. Forewings elongate-triangular, costa sinuate, posterior moderately arched, apex round-pointed, hindmargin oblique, rather strongly sinuate inwards on upper half, rounded beneath tolerably continuously with inner margin; green; a white streak along costa from base to $\frac{3}{4}$, broad at base, attenuated throughout; a white outwardly oblique streak from inner margin at $\frac{1}{5}$, reaching half across wing; a white inwardly oblique streak from inner margin beyond middle, its apex almost or quite touching apex of preceding streak; a slender somewhat sinuate white fascia from $\frac{3}{4}$ of costa to $\frac{3}{4}$ of inner margin, where it is sometimes confluent with preceding streak. Hindwings white.

♀. 50-66 mm. Head, antennæ, and thorax rather dark fuscous. Forewings rather dark fuscous, somewhat mixed with reddish; markings bright green; a very large triangular blotch in disc anteriorly, its angles lying beneath costa near base, beneath costa at $\frac{2}{3}$, and very near inner margin beyond middle; sometimes one or two small spots near inner margin before middle; an irregular suboblong blotch along hindmargin from apex to below middle, connected with anterior blotch by a bar in disc. Hindwings ochreous-rosy, more ochreous posteriorly; hindmargin narrowly suffused with dark fuscous from below middle to middle of inner margin.

Newcastle and Sydney, New South Wales; Fernshaw, Victoria; Hobart, Tasmania; Mount Lofty, South Australia; common. Larva on various trees and shrubs.

16. *Hep. splendens*, Scott.

(*Charagia splendens*, Scott, Trans. Ent. Soc. N. S. Wales, II. 31.)

♂. 60 mm. Forewings yellowish-green, posteriorly bluish-green; markings silvery-white; a streak along costa from base to $\frac{2}{3}$, thence to inner margin beyond middle, thence towards base, before reaching which it forms two distinct angles; two narrow

posterior transverse fasciae, connected at upper extremity; a bluish-green V-shaped mark in centre of disc. Hindwings greenish-white.

♀. 80 mm. Forewings purple; markings green; a large triangular discal blotch, lower angle touching inner margin, upper side thrice indented towards base; a blotch towards apex, extending half across wing, indented on anterior side; a spot near anal angle, and two near base. Hindwings pale purplish-red.

Sydney, New South Wales. Larva on *Casuarina* and other trees. I have not seen this species, and have drawn up the description from Scott's.

17. *Hep. Scotti*, Scott.

(*Charagia Scotti*, Scott, Trans. Ent. Soc. N. S. Wales, II. 34.)

♀. 112 mm. Forewings green, strewn with small purplish-brown spots; a slender purplish-brown posterior fascia. Hindwings yellowish-red.

Richmond River, New South Wales. Larva on *Wistaria*, &c. The above is taken from Scott's description.

18. *Hep. Ramsayi*, Scott.

(*Charagia Ramsayi*, Scott, Trans. Ent. Soc. N. S. Wales, II. 32.)

♂. 84-100 mm. Head and thorax green. Forewings green; markings silvery-white, sometimes reddish-tinged, fuscous-margined; four small spots on anterior half of costa, one towards base in middle, one on inner margin near base, one below disc at $\frac{1}{3}$, and a transverse series of four transverse narrow spots, bisected by veins, at $\frac{2}{3}$; one or two small spots on hind-margin. Hindwings whitish-green.

♀. 137 mm. Forewings green; markings silvery-white, margined with dark fuscous, placed as in ♂ but larger. Hindwings yellowish-red.

Newcastle, New South Wales. Larva on *Acmena*, &c.

19. *Hep. scriptus*, Scott.

(*Charagia scripta*, Scott, Trans. Ent. Soc. N.S. Wales, II. 33.)

♂. 75 mm. Forewings green, posteriorly yellowish-tinged, watered with paler; four posterior silvery-white fasciæ; anterior half strewn with short silvery-white marks. Hindwings greenish-white.

♀. 100 mm. Forewings green, watered with paler; costa strigulated with silvery-white; a discal silvery-white spot; two posterior series of silvery-white spots. Hindwings yellowish-red, tips greenish.

Albany, West Australia. I have not seen it; description taken from Scott's.

20. *Hep. argyrographus*, Feld.

(*Charagia argyrographa*, Feld. pl. LXXXI. 2.)

♀. 84 mm. Forewings green, towards inner margin suffused with reddish; costa spotted with dark grey and whitish; numerous small scattered paler marks; two posterior series of white spots, and a hindmarginal series. Hindwings deep ochreous-yellow, suffused with reddish towards base.

No special locality quoted. I have not seen the species, and have described Felder's figure.

21. *Hep. eximius*, Scott.

(*Charagia eximia*, Scott, Trans. Ent. Soc. N.S. Wales, II. 35.)

♂. 75-110 mm. (?) Forewings green, watered with numerous short silvery-white marks; a posterior golden fascia not reaching either margin. Hindwings pale blue-green.

Newcastle, New South Wales. Larva on *Dodonaea angustifolia*. Unknown to me; description from Scott.

6. LETO, Hb.

Antennæ $\frac{1}{10}$, in ♂ simple. Palpi moderate, porrected, smooth-scaled. Forewings with vein 7 from angle, 8 from before angle, 9 and 10 stalked. Hindwings in ♂ with upper surface partially tufted with long rough hairs; neuration as in forewings.

Besides the following, there is one South African species, of almost equal size and splendour. There is no doubt of the generic identity of these two forms, which agree in all structural characters, and are specially distinguished by the shaggy tufts of the hindwings in the ♂, being at the same time the largest and most magnificent of the family. The instance of near affinity between Australian and South African forms in the *Lepidoptera* are by no means numerous, and this is an interesting case.

22. *Let. Stacyi*, Scott.

(*Zelotypia Stacyi*, Scott, Trans. Ent. Soc. N.S. Wales, II. 38.)

♂♀. 175-220 mm. Forewings greenish-ochreous; costal area strewn with ferruginous spots, surrounded by ochreous-whitish rings; hindmarginal area watered with ferruginous and whitish lines; some small black spots on costa towards apex and on hindmargin; a large raised roundish deep ochreous spot beyond middle, containing a central black crescentic mark, and a round pale ochreous white-circled anterior spot; in ♂ two or three cloudy whitish blotches on costa, one in disc before middle, and a narrow irregular fascia at $\frac{3}{4}$. Hindwings deep ferruginous-orange.

Newcastle and Manning River, New South Wales. The larva feeds in the trunks of trees. It seems to me not improbable that the colouring of the perfect insect is designed to imitate the head of a snake; this might be determined by those who have the opportunity of seeing the insect alive in its natural position of repose.

7. *PIELUS*, Walk.

Antennæ $\frac{1}{4}$ - $\frac{1}{5}$ in ♂ unipectinated throughout, pectinations broad, lamellate. Palpi short, basal joint somewhat rough-scaled beneath, second and terminal joints smooth, terminal joint nearly as long as second, subclavate. Posterior tibiæ with long rough projecting hairs. Forewings with vein 7 from angle, 8 from much before angle, 9 and 10 stalked from near 8. Hindwings as in forewings.

Forewings unicolorous..... 23. *ingens*.

Forewings variously marked..... 24. *hyalinatus*.

23. *Piel. ingens*, Walk.

(*Charagia ingens*, Walk. Suppl. 596 ; *Pielus erythrinus*, ib. 599.)

♂. 137-156 mm. Head, thorax, and abdomen pale brownish-ochreous ; abdomen sometimes suffused with very pale rosy except towards apex. Antennæ dark fuscous, pectinations $1\frac{1}{2}$. Forewings elongate, subtriangular, costa gently arched, apex obtuse, hindmargin extremely obliquely rounded continuously with inner margin, not sinuate ; unicolorous pale brownish-ochreous or ochreous-reddish. Hindwings pale brownish-ochreous or yellowish-ochreous, towards base sometimes suffused with very pale rosy.

Fernshaw, Victoria ; four specimens. This species has been alleged to occur in New Zealand, but I believe by a simple error.

24. *Piel. hyalinatus*, HS.

(*Hepialus hyalinatus*, HS. Lep. Exot. I. 50 ; *Pielus hyalinatus*, Walk. Bomb. 1576 ; *P. tasmaniae*, ib. 1577 ; *Rhizopsyche Swainsoni*, Scott, Austr. Lep. 11. pl. iv. ; *Pielus imperialis*, Olliff, Proc. Linn. Soc. N.S. Wales, 1887, 1015, pl. xxxix.)

♂♀. 80-165. Head and thorax brown, sometimes reddish or ochreous-tinged, crown and posterior part of thorax sometimes suffused with whitish-ochreous. Antennæ dark fuscous, pectinations 2. Forewings elongate, subtriangular, costa gently arched, apex obtuse, hindmargin very oblique, gently rounded continuously with inner margin ; brown or light brownish-ochreous, irregularly marked with parallel labyrinthine paler or whitish lines, alternating with dark fuscous or blackish, tending to enclose irregular darker sometimes whitish-centred spots, especially in disc between discal and posterior streaks, very variable, sometimes more or less wholly obsolete ; a very irregular rather broad white longitudinal streak in disc from near base to $\frac{2}{3}$, sometimes hardly paler than ground colour, sometimes variously interrupted, or extended to connect with posterior streak ; a similar oblique streak from apex to above anal angle, similarly very variable : cilia rather dark fuscous. Hindwings pale grey, light brownish-ochreous, fuscous, or dark grey, base sometimes considerably darker.

var. *a*. Base of hindwings and of abdomen rosy.

var. *β*. Forewings and hindwings rosy-ochreous ; streaks silvery-white, broadly margined with fuscous ; labyrinthine marks obsolete.

Newcastle and Blackheath, New South Wales ; Melbourne, Warragul, and Fernshaw, Victoria ; fifteen specimens. The larva feeds underground on the roots of trees. The imago is exceedingly variable, no two being alike.

8. TRICTENA, n.g.

Antennæ $\frac{1}{3}$, in ♂ tripectinated throughout. Palpi moderate, straight, porrected, basal joint shortly rough-scaled beneath, second and third terminal joints smooth, terminal joint half second, clavate. Posterior tibiæ densely rough-haired. Forewings with vein 7 from angle, 8 from much before angle, 9 and 10 stalked from near 8. Hindwings as in forewings.

Characterised by the singular tripectinate antennæ, which are, so far as I know, unique. The imago is of ponderous build ; it may be regarded as a development of the preceding genus.

25. *Trict. labyrinthica*, Don.

(*Cossus labyrinthicus*, Don. Ins. N. Holl. ; *C. argenteus*, ib., HS. Lep. Exot. I. 47, 48 ; *Pielus labyrinthicus*, Walk. Bomb. 1578 ; *P. atripalpis*, ib. 1577 ; *P. hydrographus*, Feld. pl. LXXX. 3.)

♂♀. 100-188 mm. Head, thorax, and abdomen dark fuscous. Antennæ light ferruginous. Forewings elongate-triangular, costa posteriorly moderately arched, apex obtuse, hindmargin oblique, slightly sinuate, rounded beneath continuously with inner margin ; dark fuscous, more or less marked with irregular parallel lighter and darker labyrinthine lines, tending to enclose irregular concentric rings, especially towards hindmargin, where they are sometimes whitish-centered ; a very irregular-edged rather broad white longitudinal streak in disc from near base to before $\frac{2}{3}$, posteriorly generally emitting three or four short teeth ; sometimes several small scattered white spots in disc beyond apex of this ; a slightly

sinuate rather irregular white streak from apex, or close beneath it, to midway between apex of discal streak and anal angle, more or less dilated in middle, lower portion sometimes interrupted to form two or three spots; in ♀ all white markings are much reduced or entirely absent: cilia dark fuscous. Hindwings fuscous; cilia dark fuscous.

Sydney, New South Wales; in April and May, sometimes common at gas-lamps. Larva subterranean, feeding on the roots of trees, sometimes at a considerable depth; it was eaten for food by the natives.

MONOCTENIADAE.

No maxillary palpi. Forewings with vein 1 simple, 5 rising from transverse vein not nearer to 4 than to 6, 7 and 8 out of 9. Hindwings with vein 1c absent; 5 from middle of transverse vein, 8 closely approximated to upper margin of cell from near base to middle of cell or beyond, rarely fused with it at a point near base, or (*Hypographa*) anastomosing with margin of cell.

This family I have elsewhere called *Oenochromidae*, but as the genus *Oenochroma* proves on examination to be non-existent, being only a synonym of *Monoctenia*, I consider it necessary to change the name accordingly. The family belongs to the *Geometrina*, and is of great interest as being apparently the most ancestral section of that group. With the *Larentiadae* and *Boarmiadae* it cannot be confused structurally (see however *Hypographa*); with the *Geometridae* and *Desmobathridae* also no difficulty can arise except in the case of those exceptional genera in which vein 8 of the hindwings is fused with the cell at a point near base; from these the *Geometridae* differ in that vein 8 after fusion immediately diverges rapidly from the cell, whilst in the *Monocteniadae* it continues close to it and approximately parallel; in the *Desmobathridae* vein 8 is not fused with the cell-margin but connected with it by a well-marked and distinct bar, but no doubt the genetic relation here runs close, the two families being really united developmentally through these very genera or others nearly

related. The *Larentiadae* are without doubt derived directly from the *Monocteniadae*, originating from a type closely resembling *Dichromodes*, by strong anastomosis of vein 8 in the hindwings with the cell-margin. The *Desmobathridae* may also be certainly regarded as springing from a form nearly allied to *Xenomusa*. The *Geometridae* and *Boarmiadae* appear to me at present to be derived from a common ancestor approaching *Aspilates*, but the actual line of connection is not yet quite clearly made out.

Within the limits of the family there is considerable variation in superficial characteristics, some of the earlier genera being very Bombyciform in appearance. An interesting structural character which is very common in this family and very unusual in any other is found in the uniserial pectinations of the antennæ; nearly three-fourths of the species of *Monocteniadae*, including the most dissimilar groups, show this character, which appears elsewhere in the *Lepidoptera* only in isolated instances. The larvæ are at present little known; but some, at least, have twelve perfect legs instead of ten, and moreover possess rudiments of the other two pairs; this is what one might expect in an ancestral group, and it would not surprise me if larvæ of this family were hereafter found with the full complement of sixteen perfect legs.

The geographical distribution of the family shows very markedly the usual features of an ancient group, struggling with difficulty to maintain itself against numerous newer and improved forms. There are a certain number of small, scattered, and fragmentary genera, occurring almost at random throughout the old world, and nowhere dominant; and there is also a specially developed later group (that of *Taxeotis* and *Dichromodes*) practically confined to Australia, originating there under the protection of a situation which probably long excluded dangerous competitors, and hence much better represented in number of species. I conceive that the immediate ancestors of the *Dichromodes* group, residing probably in Southern Asia, gave rise to two separate branches of descent, one being the *Dichromodes* group, which arose within Australia from emigrants who made their way thither; and the

other the *Larentiadae*, which rapidly became a dominant type in Asia and Europe and spread thence over all the world, making their way also to Australia at a later period; here they have flourished as elsewhere, but the *Dichromodes* group found itself already so well established and adapted to its situation, that it has apparently not suffered much from their competition, though not strong enough to retaliate by invading the enemy's country, except that it has contrived to settle a very small colony in the mountains of New Zealand. I think this is a clear and interesting case.

In the following tabulation of genera I have included not only the Australian genera, but all those from other regions with which I am acquainted by actual observations, as it will help to give an idea of the range of the family, which has been hitherto unrecognised. *Brephos*, for example, has been usually classed with the *Noctuina* (though Lederer showed that it could not remain there and constituted a separate family for it), and the others have been distributed at random in various groups. The Australian genera are numbered in succession; the others are distinguished by letters attached to the number of the genus immediately preceding them, which serve to show their position in sequence.

- | | |
|---|--------------------------|
| 1. Hindwings with vein 8 fused with cell at a point near base | 2. |
| Hindwings with vein 8 free or rarely anastomosing with cell strongly..... | 3. |
| 2. Face and palpi clothed with very long rough hairs | 7a. <i>Brephos</i> . |
| Face and palpi not hairy..... | 10. <i>Xenomusa</i> . |
| 3. Antennæ in ♂ pectinated | 4. |
| Antennæ in ♂ ciliated | 17. |
| 4. Antennæ in ♂ unipectinated | 5. |
| Antennæ in ♂ bipectinated. | 9. |
| 5. Forewings with vein 10 out of 9 | 4. <i>Satraparchis</i> . |
| Forewings with vein 10 rising separate..... | 6. |

- | | |
|--|--------------------------|
| 6. Forewings with vein 11 anastomosing with
12..... | 16. <i>Hypographa</i> . |
| Forewings with vein 11 not anastomosing
with 12 | 7. |
| 7. Forewings with vein 11 anastomosing with
10..... | 5. <i>Epidesmia</i> . |
| Forewings with vein 11 free..... | 8. |
| 8. Tarsi spinulose..... | 15. <i>Monoctenia</i> . |
| Tarsi not spinulose | 6. <i>Dichromodes</i> . |
| 9. Forewings with vein 11 connected with 12.. | 11. |
| Forewings with vein 11 not connected with
12 | 10. |
| 10. Forewings with vein 10 absent.. | 7b. <i>Eremia</i> . |
| Forewings with vein 10 present | 12. |
| 11. Forewings with vein 10 anastomosing with
11 | 2. <i>Darantasia</i> . |
| Forewings with vein 10 free | 11. <i>Onychodes</i> . |
| 12. Forewings with vein 10 anastomosing with
11..... | 13. |
| Forewings with vein 10 not anastomosing
with 11 | 14. |
| 13. Antennal pectinations short, terminating
in tufts of long cilia | 7f. <i>Theoxena</i> . |
| Antennal pectinations normal..... | 3. <i>Nearcha</i> . |
| 14. Tarsi spinulose | 14. <i>Phallaria</i> . |
| Tarsi not spinulose | 15. |
| 15. Posterior tibiæ without middle-spurs | 12. <i>Arrhodia</i> . |
| Posterior tibiæ with middle-spurs..... | 16. |
| 16. Forewings with vein 6 out of 9 . | 13. <i>Gastrophora</i> . |
| Forewings with vein 6 separate... .. | 8. <i>Aspilates</i> . |
| 17. Antennæ nearly as long as forewings..... | 9. <i>Eumelia</i> . |
| Antennæ normal..... | 18. |

- | | |
|--|-------------------------|
| 18. Forewings with vein 11 free | 7. <i>Oenone</i> . |
| Forewings with vein 11 not free | 19. |
| 19. Hindwings with 6 and 7 stalked | 20. |
| Hindwings with veins 6 and 7 separate..... | 21. |
| 20. Forewings with vein 10 absent | 7c. <i>Aplasta</i> . |
| Forewings with vein 10 present..... | 7d. <i>Odezia</i> . |
| 21. Forewings with vein 11 out of 10..... | 7e. <i>Gypsochroa</i> . |
| Forewings with vein 11 separate..... | 1. <i>Taxeotis</i> . |

1. TAXEOTIS, n.g.

Face smooth. Tongue developed. Antennæ in ♂ filiform or subdentate, moderately ciliated ($\frac{3}{4}$ -1). Palpi moderate or rather long, porrected, rough-scaled. Forewings with vein 10 anastomosing with 9, 11 anastomosing strongly with 10 before 9, 12 sometimes connected by bar with 11. Hindwings with veins 6 and 7 approximated at base.

An endemic development from *Epidesmia*. The species are commonly very difficult to distinguish, being obscurely coloured, extremely similar, and at the same time variable; I believe however that I have correctly defined the limits of those given, though I make no doubt that there are other closely allied forms which I have overlooked or not met with.

- | | |
|---|-------------------------|
| 1. Forewings without discal dot | 13. <i>philodora</i> . |
| Forewings with discal dot..... | 2. |
| 2. Forewings with discal dot spot-like, pale-centred | 2. <i>stereospila</i> . |
| Forewings with discal dot not spot-like, pale-centred | 3. |
| 3. Forewings with two triangular black spots on costa..... | 4. <i>isomeris</i> . |
| Forewings without two triangular black spots on costa..... | 4. |

- | | |
|--|----------------------------|
| 4. Face ferruginous | 5. |
| Face dark fuscous (sometimes ferruginous-tinged) or black..... | 6. |
| 5. Forewings with first line marked by a ferruginous black-spotted streak..... | 5. <i>exsectaria</i> . |
| Forewings with first line obsolete | 1. <i>endela</i> . |
| 6. Forewings with costal edge ochreous-yellowish anteriorly..... | 6. <i>anthracopa</i> . |
| Forewings with costal edge not ochreous-yellowish anteriorly | 7. |
| 7. Base of palpi sharply whitish | 8. |
| Base of palpi not sharply whitish..... | 12. |
| 8. Forewings with second line ferruginous or ochreous-tinged..... | 9. |
| Forewings with second line not ferruginous or ochreous-tinged..... | 10. |
| 9. Forewings with a sharply marked dark line in cilia | 7. <i>delogramma</i> . |
| Forewings without a sharply marked dark line in cilia... .. | 8. <i>intextata</i> . |
| 10. Forewings with a subterminal series of darker spots..... | 11. |
| Forewings without a subterminal series of darker spots | 10. <i>intermixtaria</i> . |
| 11. Forewings grey..... | 12. <i>isophanes</i> . |
| Forewings ochreous-whitish | 11. <i>epigypsa</i> . |
| 12. Forewings with hindmargin on upper half sinuate | 9. <i>egenata</i> . |
| Forewings with hindmargin on upper half straight | 3. <i>oraula</i> . |

In the first three species vein 12 of the forewings is free, in all the others it is connected by bar with 11. This character is constant in my specimens, but is perhaps not altogether reliable, and too much stress should not be laid on it.

1. *Tax. endela*, n.sp.

♂. 22-28 mm. Head ochreous-whitish, face light ferruginous. Palpi 2, light ferruginous, base ochreous-whitish. Antennæ whitish. Thorax, abdomen, and legs pale whitish-ochreous. Forewings triangular, hindmargin straight above, rounded beneath; 12 free; whitish-ochreous, with some fine scattered dark fuscous scales; a dark fuscous dot in disc above middle; a nearly straight or faintly sinuate series of about seven blackish dots from $\frac{3}{4}$ of inner margin towards apex, only reaching $\frac{3}{4}$ across wing, sometimes edged posteriorly by a slender faint ochreous streak; a fine blackish interrupted hindmarginal line or series of dots: cilia whitish-ochreous. Hindwings with hindmargin rounded; whitish-ochreous, generally with fine scattered dark fuscous scales; hindmarginal line and cilia as in forewings.

Bathurst (2500 feet), New South Wales; Melbourne, Victoria; in November and December, four specimens. A distinct species, well characterised by the pale ferruginous face and palpi, whitish-ochreous colouring, total absence of first line of forewings, and straightness of second.

2. *Tax. stereospila*, n.sp.

♂♀. 21-24 mm. Head pale whitish-ochreous, face rather dark fuscous except lower margin. Palpi $2\frac{1}{2}$ -3, whitish-ochreous, externally more or less brownish-tinged. Antennæ ochreous-whitish. Thorax whitish-ochreous. Abdomen ochreous-whitish, sprinkled with blackish. Legs whitish-ochreous irrorated with blackish, tarsal joints blackish towards base. Forewings triangular, hindmargin on upper half in ♂ almost straight, in ♀ sinuate, rounded beneath; 12 free; whitish-ochreous, irrorated with fuscous and black; a small dark fuscous mark on costa at $\frac{1}{3}$, a dot on inner margin at $\frac{1}{3}$, and one or two dots in a straight line between them; a small transverse-oblong fuscous or blackish spot in disc above middle, centred with paler scales; a small dark fuscous mark on costa at $\frac{3}{4}$; a cloudy dark fuscous line from apex to inner margin at $\frac{3}{4}$, sinuate inwards on upper half and again on lower half, on lower $\frac{3}{4}$ closely preceded by a ferruginous sometimes interrupted

line, marked in ♂ with black dots on veins, and closely followed by a series of cloudy blackish dots ; a hindmarginal series of black dots : cilia whitish-ochreous, basal half in ♀ irrorated with dark fuscous. Hindwings with hindmargin rounded ; pale whitish-ochreous, irrorated with fuscous and blackish ; a short double dark fuscous line rising from inner margin at $\frac{2}{3}$; hindmarginal dots and cilia as in forewings.

Sydney and Bathurst (2500 feet), New South Wales, in October and November ; common. Distinguished from all others by the small dark pale-centered spot replacing the usual discal dot of forewings.

3. *Tax. oraula*, n.sp.

♂. 21-22 mm. Head grey-whitish, face dark fuscous. Palpi $1\frac{1}{2}$, dark fuscous. Antennæ grey-whitish. Thorax and abdomen whitish-grey. Legs grey, posterior tibiæ grey-whitish. Forewings triangular, hindmargin straight above, rounded beneath ; 12 free ; pale grey, sprinkled with dark fuscous ; a short dark fuscous mark on costa at $\frac{2}{5}$, one on inner margin at $\frac{2}{5}$, and a dot in disc directly between these ; a minute dark fuscous dot in disc above middle ; a dark fuscous mark on costa at $\frac{3}{4}$; a series of dark fuscous dots from near beyond lower extremity of this to $\frac{3}{4}$ of inner margin, rather strongly sinuate inwards on lower half, the whole sometimes connected by a fine denticulate dark fuscous line, acutely angulated at upper extremity to connect with costal mark ; a very faintly indicated paler waved subterminal line ; a hindmarginal series of black dots : cilia pale grey. Hindwings with hindmargin rounded ; pale grey ; a short indistinct dark fuscous erect line from $\frac{2}{3}$ of inner margin ; a hindmarginal series of dark fuscous dots ; cilia pale grey.

Mount Kosciusko (5000-5800 feet), New South Wales, in January ; two specimens. Besides the neural character, it differs from all the other similar species with dark fuscous palpi, except *T. egenata*, in not having the sharply-defined white basal area of palpi ; from *T. egenata* it is readily separated by the smaller size, straight upper portion of hindmargin of forewings, dark fuscous costal marks, absence of subterminal spots, and other details.



4. *Tax. isomeris*, n.sp.

♂. 19 mm. Head grey sprinkled with white, face black. Palpi $1\frac{2}{3}$, black. Antennæ grey. Thorax pale ochreous-grey. Abdomen whitish-grey. Legs dark grey, posterior pair irrorated with paler. Forewings triangular, hindmargin straight above, rounded beneath; 12 connected by bar with 11; grey, suffusedly irrorated with light greyish-ochreous, especially towards costa; costa shortly and suffusedly strigulated with dark grey; two small triangular blackish spots on costa at $\frac{2}{5}$ and $\frac{2}{3}$; a short mark of mixed blackish and ochreous scales on inner margin at $\frac{1}{3}$, and a dot between this and first costal spot; a moderate outwards-curved series of similar dots from second costal spot to a short mark on inner margin at $\frac{3}{4}$, slightly sinuate inwards on lower third; a rather large black dot in disc above middle; faint traces of a paler waved subterminal line; a hindmarginal series of black dots: cilia grey irrorated with black. Hindwings with hindmargin rounded; grey; a darker discal dot; a short cloudy dark grey mark on inner margin at $\frac{2}{3}$, with faint indications of a continuous transverse line; hindmarginal dots and cilia as in forewings, but more obscure.

Albany, West Australia, in December; one specimen. This species is very well characterised by the triangular black costal spots.

5. *Tax. exsectaria*, Walk.

(*Panagra exsectaria*, Walk. 1011.)

♂♀. 17-21 mm. Head ochreous-whitish, more or less ferruginous-tinged, face ferruginous, back of crown grey. Palpi 2, ferruginous, base whitish. Antennæ pale grey. Thorax light ashy-grey, sometimes with a few black scales. Abdomen whitish-grey. Legs rather dark fuscous, femora and posterior tibiæ irrorated with whitish. Forewings triangular, hindmargin slightly sinuate on upper half, rounded beneath; 12 connected by bar with 11; grey, finely irrorated with ashy-whitish, and sometimes with a few black scales, in ♀ more or less suffusedly irrorated with brownish on

median area ; a small blackish-grey spot on costa at $\frac{1}{3}$, and another at $\frac{3}{4}$; a slender almost straight ferruginous streak from beneath first costal spot to $\frac{1}{3}$ of inner margin, marked with a cloudy black dot in disc and two towards inner margin ; a moderate blackish dot in disc above middle ; a sinuate ferruginous line, marked with blackish dots, from near beneath and beyond second costal spot to inner margin at $\frac{3}{4}$, followed by a more or less marked cloudy dark grey shade, separated from it by a fine pale line ; generally a subterminal series of cloudy blackish dots, sometimes obsolete, in ♀ followed by a denticulate pale line ; a hindmarginal series of black dots : cilia light grey. Hindwings with hindmargin rounded ; light grey, in ♀ irrorated with dark fuscous ; a dark fuscous discal dot, sometimes indistinct ; a more or less marked slightly sinuate dark grey line at $\frac{2}{3}$, more distinct towards inner margin, sometimes almost obsolete ; in ♀ subterminal dots and line as in forewings, but more obscure ; a hindmarginal series of black dots ; cilia light grey.

Sydney and Bathurst (2500 feet), New South Wales ; Adelaide, South Australia ; York, Perth, and Albany, West Australia ; from September to December, common. Readily recognisable by the small size and neat appearance, the well-marked ferruginous first line, and especially the ferruginous colouring of the head.

6. *Tax. anthracopa*, n.sp.

♂. 21-23 mm. Head grey, sometimes becoming whitish-ochreous anteriorly, face black. Palpi $1\frac{2}{3}$, blackish, towards base white beneath. Antennæ and thorax grey. Abdomen whitish-grey, sprinkled with blackish. Legs dark grey, femora and posterior tibiæ irrorated with whitish. Forewings triangular, hindmargin almost straight above, rounded beneath ; 12 connected by bar with 11 ; grey, finely sprinkled with black ; costal edge slenderly ochreous-yellowish anteriorly ; a very obscure darker mark on costa at $\frac{2}{5}$, one on inner margin at $\frac{2}{5}$, and a dot in disc between these ; a moderate blackish dot in disc above middle ; an obscure darker mark on costa at $\frac{3}{4}$; a sinuate series of blackish dots, posteriorly obscurely margined with paler, from beneath and

slightly beyond this to inner margin at $\frac{3}{4}$, sometimes followed by an obscure darker grey shade towards inner margin; a subterminal series of small cloudy blackish spots, sometimes reduced to dots; a hindmarginal series of black dots: cilia with basal half light grey sprinkled with black, terminal half grey-whitish. Hindwings with hindmargin rounded; colour, hindmarginal dots, and cilia as in forewings; a blackish discal dot; an indistinct sinuate darker line at $\frac{3}{5}$, obscurely margined posteriorly with paler; a subterminal series of small darker spots obscurely defined, sometimes obsolete.

Sydney, New South Wales; Deloraine, Tasmania; in September and December, four specimens. Differs from all the species with black and white palpi by the yellowish costal edge of forewings; characterised also by the absence of ferruginous lines, and comparative shortness of palpi.

7. *Tax. delogramma*, n.sp.

♂♀. 20-24 mm. Head ochreous-whitish, face dark fuscous. Palpi 2, dark fuscous, white towards base. Antennæ whitish spotted with fuscous. Thorax whitish-grey. Abdomen very pale greyish-ochreous, sprinkled with black. Legs pale brownish-ochreous, femora and posterior tibiæ whitish-ochreous irrorated with dark fuscous. Forewings triangular, hindmargin in ♂ faintly, in ♀ distinctly sinuate above, rounded beneath; 12 connected by bar with 11; pale greyish-ochreous, sprinkled with black; a dark fuscous dot on costa about $\frac{1}{3}$, another on inner margin at $\frac{1}{3}$, and two between these; a moderate blackish dot in disc above middle; a short dark fuscous mark on costa at $\frac{3}{4}$; an ill-defined sinuate ferruginous line, marked with blackish dots, from beneath and beyond this to inner margin at $\frac{3}{4}$, often followed by a cloudy rather dark fuscous shade; beyond this a subterminal series of small cloudy blackish spots or dots, posteriorly margined by paler marks, and sometimes followed by short dark streaks on veins; a hindmarginal series of black dots: cilia ochreous-whitish, basal half sprinkled and sometimes obscurely barred with dark fuscous, separated by a well-defined dark fuscous median line, becoming

lighter towards anal angle. Hindwings with hindmargin rounded ; colour, hindmarginal dots, and cilia as in forewings ; a dark fuscous discal dot ; a rather irregularly sinuate more or less indistinct darker line at $\frac{2}{3}$, often marked with a series of blackish dots, sometimes margined posteriorly by a fine pale line.

Duaringa, Queensland ; Sydney, Blackheath (3500 feet), and Bathurst (2500 feet), New South Wales ; Melbourne and Beechworth, Victoria ; Deloraine and Georges Bay, Tasmania ; Mount Lofty, South Australia ; York and Albany, West Australia ; from October to January, common everywhere. This common species appears to have been hitherto confused with the next, and to have received no distinctive name ; its special character is the strongly-marked dark line of the cilia, but it may also be separated from *T. intextata* by the dark fuscous (not ferruginous-tinged) palpi, and the straighter hindmargin of forewings in ♂.

8. *Tax. intextata*, Gn.

(*Panagra intextata*, Gn. X. 130 ; *P. perlinearia*, Walk. 998 ; *P. areniferata*, ib. 998 ; *P. explicataria*, ib. 999 ; *P. inconcisata*, ib. 1003.)

♂♀. 22-28 mm. Head whitish-ochreous, face deep ferruginous-fuscous. Palpi 2, deep ferruginous, base ochreous-whitish. Antennæ ochreous-whitish. Thorax and abdomen pale greyish-ochreous sprinkled with black. Legs light brownish-ochreous, femora and posterior tibiæ whitish-ochreous sprinkled with dark fuscous. Forewings triangular, hindmargin above distinctly sinuate in both sexes, rounded beneath ; pale greyish-ochreous or grey-brownish, sprinkled with black, in ♀ more brownish or sometimes yellow-ochreous ; a very faint ochreous line from $\frac{1}{3}$ of costa to $\frac{1}{3}$ of inner margin, posterior edge often marked with three or four dark fuscous dots ; a moderate blackish dot in disc above middle ; a cloudy dark fuscous mark on costa at $\frac{3}{4}$; a sinuate yellowish-ochreous line or cloudy streak from beyond and beneath this to inner margin at $\frac{3}{4}$, marked with a series of dark fuscous dots sometimes connected by a fuscous line ; a subterminal series of small blackish spots, in ♀ obscure or obsolete ; a hind-

marginal series of black dots: cilia whitish-fuscous, whitish-ochreous, or grey-whitish, base sometimes with a few scattered dark fuscous scales. Hindwings with hindmargin rounded; colour, hindmarginal dots, and cilia as in forewings; a dark fuscous discal dot; a nearly straight often indistinct pale ochreous line or streak at $\frac{2}{3}$, marked with a series of dark fuscous dots or fuscous line.

Toowoomba (2000 feet), Queensland; Sydney, New South Wales; Mount Lofty, South Australia; from August to December, very common. Differs from all the nearest-allied species by the very deep ferruginous palpi; in colouring it is otherwise very variable. Under the head of *P. inconcisata*, Walker has included with this species specimens also of the preceding; it is also likely enough that Guénée's description refers to both; but as neither of these makes any mention of the conspicuous dark line in the cilia which characterises *T. delogramma*, I refer these descriptions to this species.

9. *Tax. egenata*, Walk.

(*Panagra egenata*, Walk. 997.)

♂. 28 mm. Head grey-whitish, face blackish. Palpi $1\frac{2}{3}$, dark fuscous, base mixed with paler. Antennæ whitish. Thorax and abdomen whitish-grey, with a few black scales. Legs pale grey, femora and posterior tibiæ sprinkled with blackish. Forewings triangular, hindmargin sinuate above, rounded beneath; 12 connected by bar with 11; pale ochreous-grey, sprinkled with fine black scales; a blackish dot in disc at $\frac{1}{4}$, and one near inner margin at $\frac{1}{3}$; a moderate blackish dot in disc above middle; a nearly straight fine obscure ochreous-whitish line from towards costa at $\frac{4}{5}$ to inner margin at $\frac{3}{4}$, margined anteriorly by a series of blackish dots; a subterminal series of blackish dots, two lowest sometimes confluent into an irregular spot; a hindmarginal series of black dots: cilia fuscous-whitish, basal half somewhat sprinkled with fuscous, with a light fuscous median line. Hindwings with hindmargin rounded; colour, hindmarginal dots, and cilia as in forewings; a blackish discal dot; a gently-curved fine obscure ochreous-whitish line at $\frac{2}{3}$, anteriorly margined with a series of blackish dots.

Duaringa, Queensland, in July ; three specimens received from Mr. G. Barnard. Separable from the similar species with dark fuscous palpi, except *T. oracula*, by their not having the base sharply white ; from *T. oracula* by the sinuate hindmargin of forewings, difference in neuration, and other characters noted above.

10. *Tax. intermixtaria*, Walk.

(*Panagra intermixtaria*, Walk. 1000 ; *P. promelanaria*, ib. 1666.)

♂. 24-25 mm. Head ochreous-white, face dark fuscous. Palpi 2, dark fuscous, base white. Antennæ whitish. Thorax and abdomen grey-whitish. Legs light grey, femora and posterior tibiæ whitish sprinkled with dark grey. Forewings triangular, hindmargin straight above, rounded beneath ; 12 connected by bar with 11 ; pale whitish-grey, suffusedly irrorated with ochreous-whitish, and with fine scattered black scales ; a black dot in disc at $\frac{1}{3}$, and another above inner margin at $\frac{2}{5}$; a black dot above middle of disc ; a black dot on costa at $\frac{3}{4}$; a sinuate series of black dots from beneath and rather beyond this to $\frac{3}{4}$ of inner margin ; a hindmarginal series of black dots : cilia whitish-grey, terminal half whitish, dividing line grey, distinct. Hindwings with hindmargin rounded ; colour, hindmarginal dots, and cilia as in forewings ; a blackish discal dot ; a somewhat sinuate series of very indistinct darker dots at $\frac{2}{3}$, followed by traces of a paler line.

Bathurst (2500 feet), New South Wales, in November ; three specimens. Characterised by the pale colouring, absence of ochreous markings and of subterminal spots, and presence of distinct line in cilia.

11. *Tax. epigypsa*, n.sp.

♂. 20 mm. Head, antennæ, thorax, abdomen, and legs whitish ; face blackish. Palpi $1\frac{2}{3}$, blackish, base white. Forewings rather elongate-triangular, hindmargin straight above, rounded beneath ; 12 connected at a point with 11 ; ochreous-whitish, with a few fine scattered black scales ; a moderate blackish dot in disc above middle ; a series of indistinct fuscous dots marked with black

scales from $\frac{2}{3}$ of costa to $\frac{3}{4}$ of inner margin, curved outwards on upper $\frac{2}{3}$; a subterminal series of small indistinct fuscous spots marked with black scales; a hindmarginal series of large black dots: cilia whitish. Hindwings with hindmargin rounded; ochreous-whitish, with scattered blackish scales on lower half; hindmarginal dots and cilia as in forewings.

Quorn, South Australia, in October; one specimen. This is not in very good condition, but is certainly a good species, most resembling the preceding, but well distinguished by the somewhat more elongate wings, smaller size, relatively shorter palpi, subterminal spots, and the large size of hindmarginal dots; from the rest its ochreous-whitish colouring readily separates it.

12. *Tax. isophanes*, n.sp.

♂♀. 22-27 mm. Head whitish-grey, forehead whitish-ochreous, face dark fuscous. Palpi 2, dark fuscous, base white. Antennæ grey-whitish. Thorax and abdomen pale grey, with scattered dark fuscous scales. Legs dark grey, femora and posterior tibiæ irrorated with whitish. Forewings triangular, hindmargin straight above, rounded beneath; 12 connected by bar with 11; grey, suffusedly irrorated with pale greyish-ochreous, with fine scattered black scales; an indistinct dark fuscous dot on costa at $\frac{1}{3}$, a second on inner margin about $\frac{2}{5}$, and two more distinct in a straight line between these; a moderate dark fuscous dot in disc above middle; a fine slightly curved and sinuate cloudy fuscous line from about $\frac{3}{4}$ of costa to $\frac{3}{4}$ of inner margin, marked with obscure dark fuscous dots; a subterminal series of small obscure cloudy dark fuscous spots; a hindmarginal series of black dots: cilia pale greyish-ochreous, basal half mixed with grey. Hindwings with hindmargin rounded; light fuscous irrorated with darker, becoming darker posteriorly; hindmarginal dots and cilia as in forewings.

Murrurundi (1500 feet), New South Wales; Melbourne, Victoria; Mount Lofty, South Australia; in October, four specimens. An obscure-looking species, characterised by the dull colouring, absence of ochreous lines, slightly curved second line not angulated near costa, and presence of subterminal spots.

13. *Tax. philodora*, n.sp.

♂. 20 mm. Head whitish-ochreous, forehead more whitish, face dark ferruginous-fuscous. Palpi 2, dark ferruginous-fuscous, towards base white. Antennæ, thorax, abdomen, and legs whitish-ochreous. Forewings triangular, hindmargin oblique, straight above, rounded beneath; 12 connected by bar with 11; whitish-ochreous, irrorated with yellowish-ochreous in disc; a straight thick blackish line from beyond $\frac{1}{3}$ of costa to beyond $\frac{1}{3}$ of inner margin, interrupted immediately beneath costa, preceded except on costa by a brownish suffusion; a thick blackish inwards-curved and twice sinuate line from hindmargin below apex to inner margin at $\frac{3}{4}$, followed by a brownish suffusion, and interrupted near upper extremity by a straight cloudy whitish subterminal shade running from near costa to anal angle; space between this and hindmargin marked with fine dark fuscous strigulæ and scattered black scales: cilia whitish-ochreous mixed with dark fuscous (imperfect). Hindwings with hindmargin rounded; whitish-ochreous, fuscous-tinged, with scattered dark fuscous scales; three parallel cloudy dark fuscous lines starting from lower third of inner margin but not reaching far across wing; cilia whitish mixed with fuscous (imperfect).

Carnarvon, West Australia; one specimen in October. Exceptionally distinct.

2. DARANTASIA, Walk.

Face with projecting cone of scales. Tongue developed. Antennæ in ♂ shortly bipectinated almost to apex, pectinations terminating in pencils of cilia. Palpi rather long, porrected, rough-scaled. Forewings with vein 10 anastomosing with 9, 11 anastomosing strongly with 10 before 9, 12 connected by bar with 11. Hindwings with veins 6 and 7 stalked.

Nearly related to *Nearcha*, and doubtless a development of it; contains only the one species, which in superficial appearance shows some reversionary tendency towards *Dichromodes*.

14. *Dar. flavicapitata*, Gn.

(*Tephрина flavicapitata*, Gn. X. 98 ; *T. capitata*, Walk. 965 ; *Darantasia mundiferaria*, ib. 1743.)

♂♀. 29-33 mm. Head pale yellowish, face dark fuscous. Palpi $2\frac{1}{2}$ -3, dark fuscous, beneath yellowish-white towards base. Antennæ ochreous-whitish, obscurely spotted with fuscous. Thorax fuscous. Abdomen light fuscous, basal segment with a deep ochreous apical band. Legs fuscous. Forewings triangular, hindmargin bowed, slightly waved ; fuscous, sprinkled with black, especially in ♀, in ♂ irrorated with light greyish-ochreous ; lines ochreous-whitish, well-marked, thicker in ♀ ; first almost straight from beyond $\frac{1}{4}$ of costa to $\frac{2}{3}$ of inner margin, anteriorly margined with ferruginous in disc ; a small transverse-oval blackish ring in disc above middle, obscurely ferruginous-tinged ; second line from $\frac{2}{3}$ of costa to $\frac{3}{4}$ of inner margin, upper $\frac{2}{3}$ very slightly curved outwards, posteriorly margined with ferruginous except towards costa ; an obscurely indicated irregular sinuate and dentate pale subterminal line, beyond which the hindmarginal area is suffusedly irrorated with ochreous-whitish ; a hindmarginal series of black dots : cilia fuscous or whitish-fuscous, irrorated and sometimes obscurely barred with ochreous-whitish. Hindwings with hindmargin rounded ; pale fuscous, more or less sprinkled with dark fuscous ; an obscure sinuate pale line at $\frac{2}{3}$, in ♂ almost obsolete ; hindmarginal dots and cilia as in forewings.

Blackheath (3500 feet), New South Wales ; Mount Lofty, South Australia ; in October, common.

3. NEARCHA, n.g.

Face with projecting cone of scales. Tongue developed. Antennæ in ♂ bipectinated almost or quite to apex. Palpi moderate or long, porrected, with long rough projecting scales. Thorax hairy beneath. Forewings with vein 10 anastomosing or connected at a point with 9, 11 anastomosing strongly with 10 before 9. Hindwings with veins 6 and 7 stalked.

Presumably a development from *Dichromodes*, but the gap between them is rather considerable. There is a good deal of affinity to *Epidesmia*, but apparently collateral. The species are dull-coloured and superficially extremely similar, though fortunately they possess admirable points of distinction in the tufts which the ♂'s often possess on the lower surface of the hindwings or sides of abdomen. The colour and length of the palpi also afford good characters; those species which have long palpi have also the frontal tuft elongate. The genus is endemic; but the New Zealand genus *Theoxena* approaches it rather nearly.

- | | |
|---|-------------------------|
| 1. Abdomen in ♂ with large lateral tufts on 5th segment | 18. <i>paraptila</i> . |
| Abdomen in ♂ without lateral tufts | 2. |
| 2. Palpi long ($3\frac{1}{2}$), pale ochreous | 3. |
| Palpi moderate ($2\text{--}2\frac{1}{2}$), blackish | 5. |
| 3. Hindwings in ♂ beneath with blackish subcostal tuft at $\frac{1}{4}$ | 19. <i>subcelata</i> . |
| Hindwings in ♂ beneath without blackish subcostal tuft at $\frac{1}{4}$ | 4. |
| 4. Hindwings in ♂ beneath with subcostal spot of short pale hairs | 20. <i>atyla</i> . |
| Hindwings in ♂ beneath without subcostal spot of short pale hairs | 21. <i>curtaria</i> |
| 5. Hindwings in ♂ beneath with subcostal tufts.. | 6. |
| Hindwings in ♂ beneath without subcostal tufts. | 15. <i>staurotis</i> . |
| 6. Hindwings in ♂ beneath with two blackish subcostal tufts | 16. <i>buffalaria</i> . |
| Hindwings in ♂ beneath with one blackish subcostal tuft | 17. <i>aridaria</i> . |

15. *Nearch. staurotis*, n.sp.

♂♀. 25-27 mm. Head grey-whitish, between antennæ yellowish-white, face dark fuscous. Palpi $2\text{--}2\frac{1}{2}$, blackish-fuscous, basal

half obliquely white. Antennæ grey-whitish, pectinations dark grey. Thorax whitish-grey. Abdomen grey-whitish, with a few scattered dark grey scales, basal segment in ♂ whitish-ochreous towards apex. Legs pale greyish-ochreous, femora sprinkled with dark fuscous, posterior legs ochreous-whitish. Forewings triangular, hindmargin bowed; pale ochreous-grey, finely sprinkled with blackish; four blackish dots or small spots forming a slightly curved series from $\frac{1}{3}$ of costa to $\frac{2}{5}$ of inner margin; a small transverse-oval blackish-grey pale-centred spot in disc above middle; an indistinct whitish or pale ferruginous gently curved line from $\frac{2}{3}$ of costa to $\frac{3}{4}$ of inner margin, slightly sinuate inwards towards inner margin, margined anteriorly by a series of black dots or small triangular spots, and followed on lower $\frac{2}{3}$ by a more or less developed blackish-grey shade, broadening downwards; a faint cloudy paler subterminal line; a hindmarginal series of black dots: cilia light ochreous-grey. Hindwings with hindmargin rounded; in ♂ without tufts beneath; colour, subterminal line, hindmarginal dots and cilia as in forewings; a faint curved whitish line beyond middle, anteriorly margined with cloudy suffused blackish dots.

Geraldton, West Australia; in November, common.

16. *Nearch. buffalaria*, Gn.

(*Panagrabuffalaria*, Gn. X. 128; *P. ursaria*, ib. 129; *P. transactaria*, Walk. 999; *P. resignata*, ib. 1003; ? *P. reserata*, ib. 1010.)

♂♀. 26-32 mm. Head light ochreous-grey, face blackish. Palpi $2\frac{1}{2}$, blackish, towards base white. Antennæ grey-whitish. Thorax and abdomen light ochreous-grey. Legs light greyish-ochreous, femora and posterior tibiæ sprinkled with blackish, middle and posterior femora roughly haired beneath, posterior tibiæ in ♂ dilated, enclosing pencil of hairs in groove. Forewings triangular, hindmargin bowed, waved, in ♀ slightly sinuate beneath apex; ochreous-grey, with fine scattered dark fuscous scales; costal edge more or less distinctly pale ferruginous; a blackish dot in disc at $\frac{1}{3}$, one on inner margin at $\frac{2}{5}$, and one on fold between these, sometimes preceded by traces of a whitish anteriorly ferruginous-margined

line; a small transverse-oval fuscous pale-centred spot above middle of disc; a faint paler or ochreous-whitish line from towards costa at $\frac{3}{4}$ to $\frac{3}{4}$ of inner margin, sinuate outwards in middle of disc, margined anteriorly by a series of black triangular dots and posteriorly by a pale ferruginous shade; a faint fuscous shade beyond this; a hindmarginal series of blackish dots: cilia light grey or greyish-ochreous, sometimes with a fuscous interrupted line. Hindwings with hindmargin rounded; in ♂ on undersurface with a large subcostal tuft of greyish-ochreous hairs mixed with dark fuscous at $\frac{1}{4}$, a smaller similar subcostal tuft in middle, and a ridge of pale greyish-ochreous hairs in disc beneath these; grey, sprinkled with dark fuscous; sometimes a faint pale curved median line, preceded by cloudy suffused blackish dots; hindmarginal dots and cilia as in forewings.

Sydney, New South Wales; Tasmania; Mount Lofty, South Australia; Perth, West Australia; from August to October and in March, common.

17. *Nearch. aridaria*, Walk.

(*Tephрина aridaria*, Walk. Suppl. 1662.)

♂♀. 25-28 mm. Head whitish-grey, becoming ochreous-whitish on forehead, face blackish. Palpi 2, blackish, towards base white. Antennæ grey-whitish. Thorax and abdomen pale grey or whitish-grey, with a few blackish scales. Legs grey, femora and posterior tibiae grey-whitish sprinkled with dark fuscous, middle and posterior femora partly rough-haired beneath. Forewings triangular, hindmargin bowed, waved; light ochreous-grey, with scattered dark grey scales; costal edge more or less distinctly pale ochreous; a slightly curved blackish line from $\frac{1}{3}$ of costa to $\frac{2}{3}$ of inner margin, in ♀ reduced to four dots; a transverse-oval sometimes obscurely pale-centred blackish spot in disc above middle, in ♀ much paler or obsolete; a blackish irregular line from before $\frac{3}{4}$ of costa to $\frac{3}{4}$ of inner margin, upper $\frac{2}{3}$ moderately curved outwards and sinuate above middle, in ♀ reduced to a series of black dots connected by an obscure grey line; in ♂ this is closely followed except towards

costa by a cloudy blackish-grey shade, posteriorly somewhat mixed with ochreous, in ♀ represented by an obscure ochreous line; a series of very indistinct cloudy grey subterminal spots; a hindmarginal series of black dots: cilia pale grey, with a faint interrupted darker line. Hindwings with hindmargin rounded; in ♂ on undersurface with a thin subcostal ridge of pale greyish-ochreous hairs terminating beyond middle in a small tuft mixed with dark fuscous; colour, hindmarginal dots, and cilia as in forewings; a blackish-grey discal dot, in ♀ sometimes obsolete; a cloudy blackish-grey median line, slightly angulated in middle, sinuate beneath, in ♀ obscure or obsolete.

Duaringa, Queensland; Bathurst (2500 feet), New South Wales; in November and March, common.

18. *Nearch. paraptila*, n.sp.

♂. 28 mm. Head fuscous-whitish, face dark ferruginous-fuscous. Palpi 2, fuscous. Antennæ fuscous-whitish. Thorax whitish-fuscous. Abdomen whitish-fuscous, with a few dark fuscous scales, 4th segment with a small lateral pencil of hairs, and a small horny ventral hook, 5th segment with a large tuft of blackish hairs on each side, mixed with pale greyish-ochreous. Legs fuscous, posterior pair fuscous-whitish. Forewings triangular, hindmargin bowed; whitish-fuscous, sprinkled with dark fuscous; faint traces of a pale ferruginous line from $\frac{1}{3}$ of costa to $\frac{2}{5}$ of inner margin, preceded by three blackish dots on veins; a transverse linear dark fuscous mark in disc above middle; traces of a pale ferruginous irregular line, posteriorly marked with a series of blackish dots, from $\frac{2}{3}$ of costa to $\frac{2}{3}$ of inner margin, upper $\frac{2}{3}$ rather strongly curved outwards, sinuate inwards above middle and towards inner margin; a subterminal series of dark fuscous dots; a hindmarginal series of blackish dots: cilia whitish-fuscous (imperfect). Hindwings with hindmargin rounded; without tufts beneath; colour, subterminal and hindmarginal dots, and cilia as in forewings; a faint ferruginous median line, marked with blackish dots, sinuate outwards in middle.

Toowoomba, Queensland; in December, one specimen.

19. *Nearch. subcelata*, Walk.*(Panagra subcelata*, Walk. 997.)

♂♀. 27-28 mm. Head and thorax pale brownish-ochreous. Palpi $3\frac{1}{2}$, pale greyish-ochreous, in ♀ fuscous-tinged. Antennæ and abdomen ochreous-whitish. Legs light fuscous, femora and posterior tibiæ ochreous-whitish sprinkled with dark fuscous. Forewings triangular, hindmargin sinuate on upper half, rounded beneath; whitish-ochreous, slightly brownish-tinged, more decidedly in ♀, finely sprinkled with dark fuscous; a slightly curved series of four black dots from beneath costa at $\frac{1}{4}$ to $\frac{1}{3}$ of inner margin; a very small dark fuscous pale-centred spot in disc above middle, sometimes reduced to a dot without pale centre; a faintly sinuate series of black dots from beneath $\frac{3}{4}$ of costa to $\frac{2}{3}$ of inner margin, followed in ♀ by a paler yellowish-tinged line; a small cloudy blackish spot immediately beyond this in middle, in ♀ obsolete; a hindmarginal series of black dots: cilia pale whitish-ochreous, in ♀ brownish-tinged, with a somewhat darker interrupted basal line. Hindwings with hindmargin rounded; in ♂ on undersurface with a large subcostal tuft of pale greyish-ochreous hairs mixed with blackish at $\frac{1}{4}$, beyond which is a considerable space clothed with short appressed pale greyish-ochreous hairs; pale whitish-ochreous-grey, in ♀ somewhat brownish-tinged; sometimes an obscure darker discal dot; hindmarginal dots and cilia as in forewings.

Newcastle, Sydney, and Bathurst (2500 feet), New South Wales; Warragul, Victoria; in April, not uncommon.

20. *Nearch. atyla*, n.sp.

♂♀. 28-29 mm. Only differs from *N. subcelata* as follows: head white on crown; hindwings in ♂ on undersurface with a small spot of short appressed pale greyish-ochreous hairs beneath costa before middle, without tuft, and with a well-marked dark fuscous discal dot.

Perth and Albany, West Australia, in November; three specimens.

21. *Nearch. curtaria*, Gn.

(*Panagra curtaria*, Gn. X. 129; *P. corrogata*, Walk. 997.)

♂♀. 28-31 mm. Head, thorax, and abdomen pale whitish-ochreous. Palpi $3\frac{1}{2}$, whitish-ochreous, externally mixed with fuscous, base white. Antennæ whitish, pectinations grey. Legs pale ochreous, posterior pair whitish, femora sprinkled with dark fuscous. Forewings triangular, hindmargin sinuate on upper half, slightly rounded beneath; whitish-ochreous, with a few scattered dark fuscous scales, towards costa faintly strigulated with pale brownish; a black dot in disc at $\frac{1}{3}$, one on inner margin at $\frac{1}{3}$, and a third between these; a small roundish dark fuscous pale-centred spot in disc above middle, sometimes reduced to a dot without pale centre; a series of cloudy blackish dots, partially connected by an incomplete obscure dark fuscous line, from $\frac{3}{4}$ of costa to $\frac{2}{3}$ of inner margin, rather strongly sinuate outwards on middle third, and inwards on lower third, nearly followed on lower $\frac{2}{3}$ by an obscure brownish-ochreous line; a hindmarginal series of black dots: cilia pale whitish-ochreous. Hindwings with hindmargin almost straight, slightly waved, apex prominent; in ♂ without tufts beneath; ochreous-whitish, sprinkled with pale grey; a hindmarginal series of black dots; cilia ochreous-whitish.

Sydney, New South Wales; Hobart, Tasmania; in March, rather common locally. The different form of the hindwings makes this species easy of recognition.

4. SATRAPARCHIS, n.g.

Tongue developed. Antennæ in ♂ unipectinated, towards apex simple. Palpi moderately long, porrected, rough-scaled. Forewings with vein 10 out of 9, 11 anastomosing shortly with 9. Hindwings with veins 6 and 7 short-stalked.

Certainly a development of *Epidesmia*, containing only the following species.

22. *Satr. bijugata*, Walk.

(*Panagra bijugata*, Walk. 1663; *Melanippe teliferata*, ib. 1712).

♂♀. 30-32 mm. Head dark fuscous, with a whitish transverse line below forehead. Palpi dark fuscous, base whitish. Antennæ black with a white line on back. Thorax (partly defaced) blackish, patagia slenderly margined with whitish. Abdomen blackish, segmental margins whitish. Legs black, sprinkled with white. Forewings triangular, hindmargin rounded; blackish, sprinkled with white towards base; a yellowish-white fascia from middle of costa to anal angle, margins straight, broadest on costa and enclosing a blackish median bar from costa reaching to near middle; a pale bluish line close beyond fascia, becoming yellowish-white on anal angle, where it coalesces with a yellowish-white somewhat irregular submarginal line; branches of subcostal vein beyond fascia finely whitish-ochreous, terminating in small spots on hindmargin; between these are more or less distinct fine blue-whitish lines: cilia blackish, with a fine white basal line, tips grey-whitish, on anal angle wholly yellowish-white. Hindwings with hindmargin rounded; yellowish-white; a moderate transverse blackish discal spot; a broad blackish hindmarginal band, anterior edge sinuate, attenuated to anal angle, containing a triangular yellowish-white spot in its lower extremity; cilia yellowish-white.

Rockhampton and Duaringa, Queensland; Grafton, New South Wales; in August, four specimens (Coll. Macleay).

5. EPIDESMIA, Westw.

Face smooth or with slightly projecting scales. Tongue developed. Antennæ in ♂ unipectinated, towards apex simple. Palpi long or extremely long, porrected, rough-scaled, attenuated. Forewings with vein 10 touching or anastomosing with 9, 11 anastomosing with 10. Hindwings with veins 6 and 7 approximated at base.

Presumably a development from *Dichromodes*, or perhaps collaterally with it from an earlier form; confined to Australia. The species, though sometimes comparatively large, are slenderly built; but I conjecture that the prominence of the apex of hindwing, often a well-marked feature, is due to an exaggeration of the prolonged form of wing characteristic of the heavily built genera, and points back to an origin from these.

- | | |
|---|---------------------------|
| 1. Hindwings blackish, with orange discal blotch | 23. <i>tricolor</i> . |
| Hindwings not blackish, with orange discal blotch..... | 2. |
| 2. Hindwings orange | 26. <i>chilonaria</i> . |
| Hindwings not orange..... | 3. |
| 3. Hindwings white | 25. <i>replicataria</i> . |
| Hindwings not white | 4. |
| 4. Forewings with three white lines from costa converging to anal angle | 24. <i>transcissata</i> . |
| Forewings without three white lines from costa converging to anal angle | 5. |
| 5. Face and palpi blackish-fuscous.... | 6. |
| Face and palpi not blackish-fuscous..... | 7. |
| 6. Forewings dark fuscous | 30. <i>oxyderces</i> . |
| Forewings brownish-ochreous..... | 28. <i>tryxaria</i> . |
| 7. Cilia with dark fuscous basal line..... | 31. <i>reservata</i> . |
| Cilia without dark fuscous basal line | 8. |
| 8. Palpi 6, ochreous-fuscous... .. | 27. <i>hypenaria</i> . |
| Palpi 4, whitish-yellowish, fuscous-tinged.... | 29. <i>perfabricata</i> . |

23. *Ep. tricolor*, Westw.

(*Epidesmia tricolor*, Westw., Duncan's Exot. Moths, 220, pl. xxviii. 1.)

♂♀. 64 mm. Head, palpi, antennæ, thorax, and legs dark fuscous; palpi 4, at base beneath yellowish-white. Abdomen whitish-sulphur, towards base fuscous. Forewings triangular, hindmargin sinuate beneath apex, rounded; dark fuscous, ochreous-tinged, towards hindmargin somewhat lighter; a moderate whitish-sulphur fascia from middle of costa to inner margin before anal angle, narrowed beneath, anterior edge almost straight, posterior edge projecting triangularly below middle: cilia grey, with a dark grey line, at apex white. Hindwings with apex rather prominent, hindmargin almost straight; blackish; a large yellowish-orange irregular roundish spot in middle of disc; two snow-white marginal dots at and above apex; cilia blackish, above apex snow-white.

Sydney, New South Wales ; ten specimens (Coll. Macleay). I am informed by Mr. Masters that this large and conspicuous species was common in Sir William Macleay's garden twenty years ago ; it then appeared to become extinct, without apparent reason, and was not seen again there or elsewhere until quite lately, when it has once more reappeared in the same locality.

24. *Ep. transcissata*, Walk.

(*Phrataria transcissata*, Walk. 1742.)

30 mm. Forewings dark fuscous ; all veins fuscous-whitish ; a straight narrow white fascia from costa before middle, a white line from costa at $\frac{2}{3}$, and a white line from apex before hindmargin, all converging to anal angle ; a whitish shade nearly preceding fascia on lower half ; a darker transverse spot, margined with whitish, in disc beyond fascia. Hindwings pale grey ; a discal grey ring, containing a very small similar ring ; an indistinct whitish line at $\frac{2}{3}$, and another before hindmargin.

Diagnosis taken from type in British Museum.

25. *Ep. replicataria*, Walk.

(*Phrataria replicataria*, Walk. Suppl. 1700.)

♂. 29-30 mm. Head rather dark fuscous, with a yellowish-white transverse line on forehead. Palpi $2\frac{1}{2}$, fuscous, towards base white. Antennæ fuscous, with a white line on stalk, pectinations 4. Thorax rather dark fuscous, becoming white posteriorly. Abdomen white. Legs white, densely irrorated with blackish, anterior pair suffused with blackish except apex of joints. Forewings triangular, hindmargin straight above, rounded beneath ; rather dark fuscous ; a whitish line along vein 1 from base, meeting the anterior of two closely parallel whitish lines from $\frac{1}{5}$ of costa to anal angle ; two closely parallel white lines from $\frac{2}{5}$ of costa to middle of disc, curved round and returning to costa at $\frac{3}{5}$; in lower portion of included space is a thick transverse-linear cloudy blackish mark ; a nearly straight white streak from $\frac{3}{4}$ of costa to anal angle, rather bent outwards

on costa, anterior margin rather suffused, touching preceding curved line and tending to be produced along branches of median vein, posteriorly sharply defined and closely followed by a fine parallel white line dilated towards lower extremity; a slightly inwards-curved denticulate white line from costa immediately before apex to hindmargin above anal angle; a blackish interrupted hindmarginal line, margined anteriorly by a whitish waved line: cilia fuscous, base and apex white, towards anal angle wholly white. Hindwings with hindmargin rounded; white; a few scattered black scales along inner margin; an interrupted blackish hindmarginal line or row of dots; cilia white; undersurface with a small dark fuscous discal spot, a sinuate line at $\frac{3}{4}$, and an incomplete subterminal fascia, which show through obscurely on upper surface.

Blackheath (3500 feet) and Mount Kosciusko (4700 feet), New South Wales; in January and February, amongst *Eucalyptus*-forest, four specimens.

26. *Ep. chilonaria*, HS.

(*Hemagalma chilonaria*, HS. Exot. 350; *Panagra aurinaria*, Gn. X. 127, pl. VII. 7).

♂♀. 38-42 mm. Head ochreous-brown, forehead ochreous-white, face dark ferruginous-fuscous. Palpi 4, deep ferruginous-fuscous, towards base white beneath. Antennæ ochreous-whitish, pectinations 4, fuscous. Thorax ochreous-fuscous, darker anteriorly. Abdomen whitish-fuscous. Legs ferruginous-fuscous, irrorated with ochreous-whitish, anterior pair banded with dark fuscous. Forewings triangular, hindmargin gently rounded; ochreous-fuscous, slightly reddish-tinged, somewhat sprinkled with dark grey; costal edge slenderly ochreous whitish, bordered beneath by a darker suffusion anteriorly; a cloudy dark fuscous dot in disc above middle, another above inner margin before middle, and a third in disc midway between these; a nearly straight slender whitish-ochreous or whitish-fuscous line from near costa at $\frac{3}{4}$ to about $\frac{3}{4}$ of inner margin, margined posteriorly by a cloudy dark

fuscous line disappearing towards upper extremity; a faint subterminal series of small obscure darker spots; a hindmarginal series of black dots, sometimes obsolete: cilia light ochreous-reddish, tips more whitish-ochreous. Hindwings with apex more or less prominent, hindmargin slightly rounded; deep orange; an obscure dark fuscous discal dot; a moderately broad hindmarginal band of thin dark fuscous irroration, towards anal angle becoming wholly fuscous, slightly reddish-tinged, and obscurely continued along inner margin towards base, gradually becoming obsolete; a hindmarginal series of blackish dots; cilia light ochreous-reddish.

Newcastle and Sydney, New South Wales; Fernshaw and Dandenong Ranges, Victoria; in November and December, flying readily in the sunshine, six specimens.

27. *Ep. hypenaria*, Gn.

(*Panagra hypenaria*, Gn. X. 128; ? *Hemagalma inspersa*, Feld. pl. CXXIX. 19.)

♂♀. 32-41 mm. Head brownish-ochreous, crown sometimes ochreous-whitish. Palpi 6, ochreous-fuscous, darker beneath, towards base yellowish-white beneath. Antennæ whitish-fuscous, pectinations 16, dark fuscous. Thorax ochreous-brown. Abdomen whitish-fuscous. Legs rather dark fuscous, femora irrorated with pale greyish-ochreous. Forewings triangular, hindmargin sinuate beneath apex, thence bowed; rather light ochreous-brown or fuscous, more or less irrorated with dark fuscous, suffused with darker towards costa anteriorly; costal edge bright ferruginous towards base, becoming pale whitish-ochreous posteriorly; a cloudy dark fuscous dot in disc above middle, another above inner margin at $\frac{2}{3}$, and a third in disc midway between these; a nearly straight narrow pale ochreous or whitish-ochreous streak from towards costa at $\frac{3}{4}$ to $\frac{2}{3}$ of inner margin, posteriorly margined by a cloudy darker fuscous posteriorly suffused shade, dividing line darker and sometimes marked with obscure blackish dots; faint traces of a pale waved subterminal line; a hindmarginal series of black dots: cilia pale brownish-ochreous, base sometimes fuscous. Hindwings

with apex prominent, hindmargin almost straight, rounded at extremities; pale fuscous or whitish-fuscous, sometimes ochreous-tinged; a dark fuscous discal dot; hindmargin suffused with darker fuscous, forming a very indistinct band containing a faint obscure paler subterminal line; hindmarginal dots and cilia as in forewings.

Glen Innes (3500 feet), Newcastle, Sydney, Blackheath (3500 feet), and Mount Kosciusko (6500 feet), New South Wales; Melbourne and Mount Macedon, Victoria; Deloraine and Georges Bay, Tasmania, from September to February; common. Distinct from all others structurally by the great length of the antennal pectinations and palpi.

28. *Ep. tryxaria*, Gn.

(*Panagra tryxaria*, Gn. X. 128.)

♂♀. 28-34 mm. Head ochreous-brown, forehead ochreous-whitish, face blackish, ferruginous-tinged. Palpi 3-3½, blackish-fuscous, ferruginous-tinged, towards base white beneath. Antennæ whitish, annulated with fuscous or blackish, pectinations 4, dark fuscous. Thorax ochreous-brown, becoming whitish-ochreous posteriorly. Abdomen ochreous-whitish sprinkled with fuscous. Legs rather dark fuscous ringed with whitish, femora and posterior tibiæ whitish irrorated with dark fuscous. Forewings triangular, hindmargin bowed; light brownish-ochreous irrorated with dark fuscous, suffused with darker towards base of costa; costal edge whitish, towards base ochreous-tinged; a cloudy dark fuscous dot in disc above middle, another above inner margin before middle, and a third in disc between these; a straight ochreous, ochreous-fuscous, or dark fuscous cloudy line from $\frac{4}{5}$ of costa to $\frac{3}{4}$ of inner margin, slenderer and indistinct above, sometimes marked with a series of dark fuscous dots, margined anteriorly by an ochreous-whitish or whitish-ochreous line, and posteriorly by an obscure fuscous suffusion; a subterminal series of indistinct dark fuscous dots; a hindmarginal series of blackish dots: cilia fuscous-whitish, with an indistinct fuscous line. Hindwings with hindmargin slightly rounded; colour, subterminal and hindmarginal

dots, and cilia as in forewings; an indistinct dark fuscous discal dot, a straight cloudy whitish-ochreous line beyond middle, posteriorly margined on lower half by a dark fuscous streak; traces of a pale waved subterminal line.

Sydney, New South Wales, in November and March; common.

29. *Ep. perfabricata*, Walk.

(*Panagra perfabricata*, Walk. 996.)

♂♀. 28-37 mm. Head, palpi, and thorax whitish-yellowish tinged with fuscous; palpi 4, base whitish beneath. Antennæ whitish, ringed with pale fuscous, pectinations 4, fuscous. Abdomen whitish. Legs fuscous, femora and posterior tibiæ whitish irrorated with dark fuscous. Forewings triangular, hindmargin bowed; very pale whitish-fuscous, densely irrorated with whitish-yellowish, towards costa tinged with brownish-ochreous; costal edge whitish except towards base; a dark fuscous dot in disc above middle, another above inner margin at $\frac{2}{5}$, and a third in disc between these; a straight dark fuscous line from beneath costa at $\frac{4}{5}$ to $\frac{3}{4}$ of inner margin, attenuated and indistinct above, marked with obscure darker dots, anteriorly margined by an ochreous-whitish line; a hindmarginal series of blackish dots: cilia white. Hindwings with hindmargin hardly rounded, apex somewhat prominently rounded; fuscous-whitish, slightly yellowish-tinged; a dark fuscous discal dot; a very slightly curved cloudy whitish line beyond middle, posteriorly margined on lower half by a fuscous streak; a hindmarginal series of blackish dots; cilia white.

Duarina, Queensland; Bathurst (2500 feet) and Mount Kosciusko (3000 feet), New South Wales; in January, locally common.

30. *Ep. oxyderces*, n.sp.

♂. 31 mm. Head dark ferruginous-brown, forehead ochreous-whitish, face blackish-fuscous. Palpi $3\frac{1}{2}$, dark fuscous, towards base white beneath. Antennæ fuscous, stalk ochreous-whitish towards base, pectinations 4. Thorax dark fuscous, anteriorly ferruginous-tinged. Abdomen fuscous-whitish irrorated with dark

fuscous. Legs fuscous, apex of joints whitish, femora and posterior tibiæ dark fuscous irrorated with whitish. Forewings triangular, hindmargin rounded; dark fuscous, anteriorly ferruginous-tinged, posteriorly slightly purplish; an ochreous-whitish streak along costa from base to $\frac{4}{5}$, suffusedly edged beneath with ferruginous, extremities attenuated; a sharply defined straight narrow white streak from $\frac{3}{4}$ of inner margin towards costa at $\frac{4}{5}$, reaching $\frac{3}{4}$ across wing, apex acute; a subterminal row of indistinct darker dots; an interrupted blackish hindmarginal line: cilia light reddish, basal half fuscous mixed with ochreous-whitish and obscurely spotted with dark fuscous. Hindwings with hindmargin slightly rounded, apex somewhat prominently rounded; rather dark fuscous, towards hindmargin rather purplish; a darker discal dot; a well-marked ochreous-whitish straight transverse streak beyond middle, interrupted beneath costa; a subterminal series of indistinct dark fuscous dots, preceded by a fine obscure paler waved line; hindmarginal line and cilia as in forewings.

Sydney, New South Wales; in November, one specimen taken in a jungly swamp, where the difficulties of collecting prevented my remaining long; a fine distinct species.

31. *Ep. reservata*, Walk.

(*Panagra reservata*, Walk. 996.)

♂. 25-26 mm. Head, palpi, and thorax light ochreous-brown; palpi $3\frac{1}{2}$. Antennæ whitish, pectinations 10, fuscous. Abdomen fuscous-whitish. Legs fuscous, femora and posterior tibiæ whitish irrorated with dark fuscous. Forewings triangular, hindmargin rounded; whitish-fuscous, sprinkled with dark fuscous, suffused with brownish-ochreous towards base of costa; costal edge ochreous-whitish, towards base more ochreous; a dark fuscous dot in disc at $\frac{1}{3}$, another above inner margin at $\frac{1}{3}$, and a third in disc above middle; a faintly sinuate series of dark fuscous dots from beneath costa at $\frac{1}{5}$ to $\frac{3}{4}$ of inner margin, anteriorly margined by an obscure whitish line becoming obsolete towards costa; a

hindmarginal series of blackish dots: cilia whitish, with a dark fuscous basal line becoming obsolete towards anal angle. Hindwings with hindmargin slightly rounded; colour, subterminal dots, and cilia as in forewings; an obscure darker fuscous discal dot; a faintly sinuate cloudy whitish line beyond middle, posteriorly margined with suffused dark fuscous dots.

Duaringa and Rockhampton, Queensland, in May; three specimens received from Mr. G. Barnard. The antennal pectinations are much longer in this species than in any other except *E. hypenaria*.

6. DICHROMODES, Gn.

Face with short projection of scales. Antennæ in ♂ unipectinated, towards apex sometimes simple. Palpi moderate, long, or very long, porrected, densely rough-scaled. Forewings with vein 10 anastomosing with 9, or sometimes separate. Hindwings with veins 6 and 7 approximated at base.

Already a genus of considerable extent, and likely to be much increased. It is confined to Australia, with the exception of two small species found in the mountains of New Zealand; these I suppose to have originated from a stray immigrant entering by way of Tasmania. The genus appears to be a development from forms resembling *Oenone* and *Brephos*. The species are nearly all dull-coloured and sometimes very variable, yet with care they are not difficult to distinguish. The uniformity of structure is remarkable; the only notable variation occurs in the anastomosis or separation of veins 9 and 10 of the forewings, of which both forms are sometimes found in the same species.

- | | |
|--|------------------------|
| 1. Hindwings clear orange in disc | 32. <i>ainaria</i> . |
| Hindwings not clear orange in disc..... | 2. |
| 2. Forewings with tufts of raised scales..... | 48. <i>steropias</i> . |
| Forewings without tufts of raised scales... | 3. |
| 3. Palpi white or whitish towards base beneath | 4. |
| Palpi at most irrorated with white beneath | 20. |

- | | | |
|-----|---|-------------------------|
| 4 | Forewings with irregular reddish-ochreous streaks on veins | 5. |
| | Forewings without irregular reddish-ochreous streaks on veins | 8. |
| 5. | Forewings with first line acutely angulated in middle..... | 46. <i>poecilotis</i> . |
| | Forewings with first line not acutely angulated in middle..... | 6. |
| 6. | Forewings with a conspicuously pale hindmarginal band..... | 38. <i>partitaria</i> . |
| | Forewings without a conspicuously pale hindmarginal band | 7. |
| 7. | Forewings with lines strongly marked, white..... | 37. <i>compsothis</i> . |
| | Forewings with lines only partially whitish | 47. <i>ioneura</i> . |
| 8. | Head whitish-ochreous on crown..... | 35. <i>odontias</i> . |
| | Head not whitish-ochreous on crown..... | 9. |
| 9. | Forewings with second line very acutely angulated in middle..... | 34. <i>anelictis</i> . |
| | Forewings with second line not very acutely angulated in middle..... | 10. |
| 10. | Head and thorax wholly dark fuscous..... | 11. |
| | Head and thorax irrorated with whitish... | 14. |
| 11. | Forewings with whitish-ochreous suffusion towards costa posteriorly..... | 39. <i>paratacta</i> . |
| | Forewings without whitish-ochreous suffusion towards costa posteriorly..... | 12. |
| 12. | Hindwings ochreous-tinged, with distinct darker hindmarginal band..... | 33. <i>diasemaria</i> . |
| | Hindwings not ochreous-tinged, without such band..... | 13. |
| 13. | Forewings with cilia mixed with purplish-red | 36. <i>disputata</i> . |

- Forewings with cilia not mixed with
purplish-red 42. *liosпода*.
14. Forewings with whitish subcostal streak... 61. *confluaria*.
Forewings without whitish subcostal streak 15.
15. Forewings with first line sharply angulated
beneath costa..... 57. *ischnota*.
Forewings with first line not sharply
angulated beneath costa..... 16.
16. Forewings with second line distinctly
angulated in middle..... 17.
Forewings with second line not distinctly
angulated in middle..... 19.
17. Forewings with second line angulated in-
wards on submedian fold 43. *explanata*.
Forewings with second line curved inwards
on submedian fold..... 18.
18. Forewings with discal spot pale-centered... 49. *orectis*.
Forewings with discal spot wholly blackish 44. *sigmata*.
19. Forewings with lines whitish..... 45. *orthotis*.
Forewings with lines not whitish..... 40. *obtusata*.
20. Forewings with large triangular blackish
discal spot..... 62. *personalis*.
Forewings without large triangular blackish
discal spot..... 21.
21. Palpi light brownish-ochreous..... 55. *estigmaria*.
Palpi dark fuscous..... 22.
22. Forewings with second line obsolete..... 52. *ophiucha*.
Forewings with second line present..... 23.
23. Forewings with second line followed by an
ochreous shade..... 59. *consignata*.
Forewings with second line not followed
by an ochreous shade..... 24.
24. Forewings with second line marked with a
reddish-ochreous spot in middle..... 54. *molybdaria*.

- Forewings with second line not marked
with a reddish-ochreous spot in middle 25.
25. Forewings with second line conspicuously
white..... 60. *stilbiata*.
- Forewings with second line not conspicu-
ously white..... 26.
26. Forewings with second line distinctly
dentate throughout..... 53. *indicataria*.
- Forewings with second line not distinctly
dentate throughout..... 27.
27. Forewings with first line entire.. 28.
- Forewings with first line reduced to three
or four black dots..... 31.
28. Forewings with second line rather sharply
angulated in middle..... 29.
- Forewings with second line not rather
sharply angulated in middle.. 30.
29. Forewings with median band narrow,
darker 58. *triparata*.
- Forewings with median band broad, not
darker 50. *atrosignata* ♀.
30. Forewings with second line pale, entire... 50. *atrosignata* ♂.
- Forewings with second line reduced to a
series of pale dots..... 41. *exsignata*.
31. Forewings with second line angulated in
middle 51. *euscia*.
- Forewings with second line almost straight 56. *ornata*.

32. *Dichr. ainaria*, Gn.

(*Dichromodes ainaria*, Gn. IX. 321, pl. III. 5; *D. divergentaria*,
ib. 321; *Cidaria metaxanthata*, Walk. 1734.)

♂♀. 22-24 mm. Head, palpi, antennæ, thorax, and legs dark
fuscous; palpi $2\frac{1}{2}$, upper edge sprinkled with whitish; antennal
pectinations 4. Abdomen rather dark fuscous. Forewings tri-
angular, hindmargin rounded; dark fuscous, irregularly irrorated

with blackish and grey-whitish ; lines cloudy, blackish ; first from beyond $\frac{1}{3}$ of costa to before middle of inner margin, slightly curved, preceded by whitish irroration ; second from before $\frac{2}{3}$ of costa to $\frac{2}{3}$ of inner margin, irregular and more or less denticulate, upper $\frac{3}{5}$ rather curved outwards, sinuate inwards above middle and more deeply below middle, posteriorly margined with whitish irroration ; a small blackish spot in disc above middle touching second line ; subterminal formed by whitish irroration, irregularly margined with blackish suffusion, irregular, more or less distinctly dentate ; a waved blackish hindmarginal line : cilia dark fuscous irrorated with whitish, terminal half grey more or less obscurely barred with darker, tips whitish. Hindwings with hindmargin rounded ; orange ; a moderate evenly broad dark fuscous hindmarginal band, obscurely continued along inner margin but attenuated to base ; cilia rather dark fuscous, tips whitish sometimes obscurely barred with fuscous.

Blackheath (3500 feet) and Bathurst (2500 feet), New South Wales ; Melbourne, Victoria ; Mount Lofty, South Australia ; in November, common.

33. *Dichr. diasemaria*, Gn.

(*Dichromodes diasemaria*, Gn. IX. 321.)

♂♀. 24-27 mm. Head, palpi, antennæ, thorax, and legs dark fuscous ; palpi $2\frac{1}{2}$ -3, towards base beneath whitish ; antennal pectinations 4. Abdomen whitish-fuscous irrorated with dark fuscous. Forewings triangular, hindmargin straight above, rounded beneath ; fuscous, densely irregularly irrorated with blackish and whitish ; an indistinct blackish transverse line near base, not reaching inner margin ; lines narrow, irregular, blackish ; first from $\frac{1}{3}$ of costa to $\frac{2}{3}$ of inner margin, almost straight, followed by an ochreous tinge ; second from $\frac{2}{3}$ of costa to $\frac{2}{3}$ of inner margin, hardly curved or sinuate, dentate throughout, followed by a paler space ; a blackish thrice deeply indented line between these, space between this and second line suffusedly darker ; a transverse blackish mark in disc above middle, nearly touching second line ; a very fine brownish-ochreous rather strongly sinuate denticulate

line from $\frac{3}{4}$ of costa to $\frac{3}{4}$ of inner margin ; a cloudy grey-whitish twice sinuate subterminal line, margined by dark fuscous suffusions ; a waved blackish hindmarginal line : cilia fuscous, base sprinkled with whitish, tips whitish, obscurely barred with darker. Hindwings with hindmargin rounded ; ochreous-fuscous, with a somewhat paler curved band at $\frac{3}{4}$, sometimes more or less suffused with yellowish ; a cloudy darker fuscous discal dot ; a cloudy dark fuscous mark on inner margin at $\frac{2}{3}$; a moderate evenly broad dark fuscous hindmarginal band ; cilia fuscous, with a cloudy darker line, tips paler.

Georges Bay, Tasmania ; in December and January, six specimens. These are unfortunately mostly in poor condition, and the species appears to vary considerably ; this description may therefore require extension.

34. *Dichr. anelictis*, n.sp.

♂♀. 22-23 mm. Head, palpi, and thorax grey mixed with blackish and whitish ; palpi 2, base more whitish. Antennæ dark grey spotted with whitish, pectinations 3. Abdomen whitish-grey irrorated with dark grey. Legs dark grey ringed with whitish, femora and posterior tibiae irrorated with whitish. Forewings triangular, hindmargin rounded ; light brownish, ochreous-tinged, sprinkled with blackish ; three indistinct blackish dentate lines between base and first line, each preceded by some whitish scales ; first and second lines fine, blackish, subdentate ; first from $\frac{2}{5}$ of costa to middle of inner margin, angulated outwards beneath costa, sinuate below middle, anteriorly finely margined with whitish ; second from $\frac{3}{5}$ of costa to $\frac{2}{3}$ of inner margin, forming a very acute angulation outwards in middle, sinuate inwards above this and more deeply below it, posteriorly finely margined with whitish ; space between these darker, with denser black irroration, often interrupted at $\frac{1}{3}$ from inner margin by a bar of ground colour, interrupting also both lines ; a blackish transverse mark in disc above middle, immediately preceding second line ; a large ill-defined whitish or whitish-ochreous suffusion towards costa beyond second line, containing a cloudy dark fuscous costal spot ;

a cloudy whitish subterminal line; a waved blackish hind-marginal line or series of spots, margined anteriorly with whitish: cilia grey, base irrorated with whitish, terminal half whitish obscurely barred with grey. Hindwings with hindmargin rounded; fuscous-grey, becoming dark grey towards hindmargin; a cloudy darker discal mark, sometimes obsolete; a blackish hind-marginal line: cilia grey-whitish, with a cloudy grey line.

Mount Lofty, South Australia; Geraldton, Perth, and Albany, West Australia; from October to December, common.

35. *Dichr. odontias*, n.sp.

♂♀. 24 mm. Head whitish-ochreous, face brownish-ochreous, with a few blackish scales. Palpi 2, rather dark fuscous, base whitish. Antennæ fuscous, pectinations 5. Thorax blackish, posteriorly mixed with pale greyish-ochreous. Abdomen pale fuscous. Legs rather dark fuscous, posterior pair light fuscous. Forewings triangular, hindmargin gently rounded; rather light fuscous, sprinkled with black; two cloudy blackish lines towards base, first not reaching inner margin; first and second lines cloudy, blackish, irregularly dentate, slightly curved; first from $\frac{2}{5}$ of costa to before middle of inner margin, preceded by a similar parallel line; second from $\frac{2}{3}$ of costa to $\frac{2}{3}$ of inner margin, followed by a similar parallel line; a narrow transverse-oval blackish spot in disc above middle, midway between first and second lines; subterminal indicated by blackish cloudy margins, irregular, subdentate, posterior margin very indistinct; a hindmarginal series of triangular blackish spots connected by a fine line: cilia pale fuscous. Hindwings with hindmargin rounded; fuscous-grey, darker towards hindmargin; cilia fuscous.

Beechworth, Victoria, in December; two specimens received from Mr. G. Barnard.

36. *Dichr. disputata*, Walk.

(*Panagra disputata*, Walk. 1009; *P. dentigeraria*, ib. 1665.)

♂♀. 22-24 mm. Head, palpi, antennæ, and thorax dark fuscous; palpi $2\frac{1}{4}$, base white beneath; antennal pectinations 4.

Abdomen dark grey. Legs dark fuscous, apex of joints whitish, femora and posterior tibiæ irrorated with grey-whitish. Forewings triangular, hindmargin rounded; dark grey, sprinkled with black and a few whitish scales, more or less tinged and sometimes suffusedly mixed with deep purple-reddish; two cloudy blackish lines towards base; first and second lines cloudy, blackish, irregularly dentate, slightly curved; first from $\frac{2}{3}$ of costa to before middle of inner margin, preceded by a similar parallel line; second from $\frac{2}{3}$ of costa to $\frac{3}{4}$ of inner margin, sometimes partially whitish-margined posteriorly, followed by a similar parallel line; a narrow transverse-oval blackish spot in disc above middle; subterminal indicated by cloudy darker margins, irregular, subdentate, anterior rather broad and marked with blackish on veins, posterior very indistinct; a hindmarginal series of triangular blackish spots connected by a fine line: cilia light fuscous, basal half irrorated or suffused with purplish-red, sometimes obscurely barred with darker. Hindwings with hindmargin rounded; fuscous-grey, darker towards hindmargin, hindmarginal line dark fuscous; cilia fuscous, towards tips whitish-fuscous.

Maryborough, Queensland; Sydney, New South Wales; also from Victoria; in October and March, rather common.

37. *Dichr. compsotis*, n.sp.

♂. 21 mm. Head and thorax blackish-fuscous mixed with white. Palpi $2\frac{1}{2}$, fuscous, base whitish beneath, upper edge whitish. Antennæ grey, pectinations $2\frac{1}{2}$. Abdomen dark fuscous, segmental margins ochreous-whitish. Legs dark fuscous ringed with whitish, femora and posterior tibiæ irrorated with whitish. Forewings triangular, hindmargin rounded; fuscous, irregularly mixed with black and white; veins partially streaked with brownish-ochreous; a cloudy blackish line near base; a roundish dark spot in disc towards base, surrounded by a whitish suffusion; first line broad, white, blackish-margined, from $\frac{1}{3}$ of costa to before middle of inner margin, gently curved, sinuate inwards above inner margin; a small transverse-oval blackish spot in disc above middle, placed on a dark bar joining first and second lines, and a

similar broader dark bar below middle ; second line moderate, white, anteriorly black-margined, posteriorly ochreous-margined on lower half, from $\frac{2}{3}$ of costa to $\frac{3}{4}$ of inner margin, rather irregular, middle third forming a short bent curve outwards ; subterminal slender, whitish, thrice sinuate, confluent beneath with a whitish irroration along hindmargin ; a waved black hindmarginal line : cilia fuscous, mixed with darker, sharply barred with whitish. Hindwings with hindmargin rounded ; pale whitish-fuscous, towards base slightly ochreous-tinged ; a small fuscous discal spot ; some white scales towards inner margin, and two white marks towards anal angle ; an interrupted fuscous hindmarginal line ; cilia whitish, basal half suffusedly barred with light fuscous.

Fremantle, West Australia ; in October, one specimen.

38. *Dichr. partitaria*, Walk.

(*Eubolia partitaria*, Walk. Suppl. 1699 ; *Liodes Angasi*, Feld. pl. CXXXI. 13.)

♂♀. 18-21 mm. Head and thorax fuscous, irrorated with blackish and whitish, thorax in ♂ with a fine ochreous median line. Palpi $2\frac{1}{2}$, rather dark fuscous, beneath ochreous-white towards base, upper edge mixed with white. Antennæ dark grey, obscurely spotted with whitish, pectinations $2\frac{1}{2}$. Abdomen dark grey irrorated with whitish. Legs dark fuscous, apex of joints whitish, femora and posterior tibiæ irrorated with whitish. Forewings triangular, hindmargin rounded ; fuscous, coarsely irrorated with black and more or less strongly with white ; veins partially streaked with ferruginous-ochreous ; an indistinct blackish line near base, not reaching inner margin ; lines slender, white, obscurely blackish-margined ; first from $\frac{1}{3}$ of costa to middle of inner margin, gently curved, sinuate inwards above inner margin ; second from $\frac{2}{3}$ of costa to $\frac{3}{4}$ of inner margin, slightly curved, slightly bent inwards on submedian fold ; a small transverse-oval blackish spot in disc above middle ; generally two ill-defined blackish streaks connecting first and second lines below middle ; subterminal cloudy, whitish, rather strongly sinuate inwards above and below middle ; a grey-whitish hindmarginal band, its anterior edge very

close and parallel to subterminal line, confluent with it towards anal angle; a fine waved black hindmarginal line: cilia fuscous, suffusedly irrorated with whitish, tending to form obscure bars. Hindwings with hindmargin rounded; fuscous-grey, somewhat darker posteriorly; an obscure darker discal dot; a faint paler line at $\frac{2}{3}$, sinuate in middle, becoming white and dark-margined on inner margin; a white dark-margined mark at anal angle; cilia fuscous, tips and base ochreous-whitish except towards apex.

Northampton and Albany, West Australia; in November and December, common.

39. *Dichr. paratacta*, n.sp.

♂. 24 mm. Head and thorax blackish-fuscous. Palpi 2, dark fuscous, beneath ochreous-whitish. Antennæ dark grey, pectinations 3. (Abdomen broken.) Legs dark fuscous, apex of joints whitish, femora and posterior tibiæ irrorated with whitish. Forewings triangular, hindmargin waved, rounded; rather light fuscous; basal area brownish-ochreous mixed with ferruginous, margins mixed with dark fuscous; a broad dark fuscous median band, anteriorly limited by a gently curved deep ferruginous, posteriorly blackish-edged streak from before $\frac{1}{3}$ of costa to $\frac{1}{3}$ of inner margin, posteriorly by second line, which is very fine, blackish, running from $\frac{2}{3}$ of costa to before $\frac{3}{4}$ of inner margin, forming an obtuse-angled projection below middle, above this slightly sinuate, below it waved; first line within this band near anterior edge, fine, blackish, irregular, angulated outwards beneath costa; a small transverse blackish spot in disc above middle, upper extremity connected with second line by a ferruginous-ochreous bar, lower extremity touching a similar bar extending from transverse ferruginous streak to second line in middle, posteriorly obscurely blackish-margined; space between median band and apex suffused with whitish-ochreous towards costa, especially anteriorly; subterminal line hardly paler, dark-margined, irregularly denticulate, anterior margin on upper $\frac{2}{3}$ forming a moderately thick irregular partly fuscous and partly ochreous-brown shade, marked in middle with a short thick longitudinal

black dash ; hindmarginal area sprinkled with whitish ; a waved black hindmarginal line : cilia light fuscous irregularly mixed with whitish. Hindwings with hindmargin rounded ; fuscous ; inner margin towards anal angle obscurely streaked transversely with whitish and darker fuscous ; a dark fuscous hindmarginal line ; cilia as in forewings.

Sydney, New South Wales ; in October, two specimens. In the British Museum collection a specimen of this species is placed as *Coremia strumosata*, Gn., but this determination is wholly erroneous.

40. *Dichr obtusata*, Walk.

(*Panagra obtusata*, Walk. 1008 ; *P. devitata*, ib. 1010.)

♂♀. 21-24 mm. Head and thorax fuscous sprinkled with whitish. Palpi $2\frac{1}{2}$, dark fuscous, base whitish. Antennæ fuscous, pectinations $3\frac{1}{2}$. Abdomen whitish-fuscous, sprinkled with dark fuscous. Legs dark fuscous, femora and posterior tibiæ sprinkled with whitish. Forewings triangular, hindmargin bowed ; fuscous, finely irrorated with whitish and thinly sprinkled with dark fuscous ; a fine ferruginous line mixed with blackish near base, not reaching inner margin ; a nearly straight well-marked ferruginous line from before $\frac{1}{3}$ of costa to $\frac{1}{3}$ of inner margin, becoming blackish at extremities ; first and second lines fine, dark fuscous, irregularly dentate throughout, dilated on costa ; first from $\frac{2}{5}$ of costa to middle of inner margin ; second from $\frac{2}{3}$ of costa to before $\frac{3}{4}$ of inner margin, slightly curved ; a small transverse-oblong dark fuscous spot in disc above middle, sometimes only outlined in dark fuscous ; three twice sinuate cloudy darker fuscous lines between second line and hindmargin, first sometimes mixed with ferruginous ; a waved blackish hindmarginal line : cilia fuscous sprinkled with whitish. Hindwings with hindmargin rounded ; fuscous, posteriorly irrorated with darker, tending to form cloudy lines towards inner margin ; a dark fuscous hindmarginal line ; cilia fuscous sprinkled with whitish.

Bathurst (2700 feet), New South Wales ; Mount Lofty, South Australia ; in November, six specimens.

41. *Diclr. exsignata*, Walk.

(*Panagra exsignata*, Walk. 1010.)

♂. 22-24 mm. Head, palpi, and thorax wholly dark fuscous; palpi $2\frac{1}{4}$. Antennæ grey, pectinations $3\frac{1}{2}$. Abdomen pale fuscous irrorated with darker. Legs dark fuscous, femora and posterior tibiæ irrorated with whitish. Forewings triangular, hindmargin bowed; fuscous, with a few blackish scales, somewhat darker on median band and along costa; an obscure slightly paler ferruginous-tinged nearly straight line from $\frac{1}{3}$ of costa to $\frac{2}{5}$ of inner margin, posteriorly more or less distinctly edged with blackish, especially towards inner margin; a small cloudy transverse dark fuscous spot in disc above middle; second line indicated by a very obscure sinuate series of pale dots preceded by blackish scales from $\frac{3}{4}$ of costa to $\frac{3}{4}$ of inner margin; subterminal hardly paler, very obscure, irregularly subdentate; hindmargin somewhat sprinkled with whitish; a waved blackish hindmarginal line: cilia fuscous, base sprinkled with whitish, terminal half whitish-fuscous. Hindwings with hindmargin rounded; fuscous; a faint darker discal mark; a darker hindmarginal line; cilia as in forewings.

Sydney, New South Wales, from September to November; five specimens.

42. *Diclr. liospoda*, n.sp.

♂. 23 mm. Head, palpi, and thorax dark ashy-fuscous; palpi $2\frac{1}{2}$, towards base white beneath. Antennæ dark fuscous, pectinations 3. Abdomen pale grey, suffusedly irrorated with dark grey. Legs dark fuscous, apex of joints whitish, femora and posterior tibiæ irrorated with whitish. Forewings triangular, hindmargin bowed; dark ashy-fuscous; an obscure blackish line near base, not reaching inner margin; a nearly straight obscure blackish line from $\frac{1}{3}$ of costa to $\frac{2}{5}$ of inner margin; lines extremely obscure, hardly perceptibly darker, starting from cloudy blackish spots on costa at $\frac{2}{5}$ and $\frac{2}{3}$, second gently curved; a narrow obscure blackish transverse mark in disc above middle; subterminal very faintly indicated, not traceable; an interrupted blackish hindmarginal

line : cilia dark ashy-fuscous, with a few whitish points, towards tips paler. Hindwings with hindmargin rounded ; rather dark fuscous ; cilia rather dark fuscous.

Sydney, New South Wales ; in September, one specimen.

43. *Dichr. explanata*, Walk.

(*Panagra explanata*, Walk. 1009.)

♂♀. 20-24 mm. Head and thorax dark grey irrorated with whitish and black. Palpi 3, dark grey irrorated with black, towards base white beneath, upper edge sprinkled with whitish. Antennæ grey, pectinations 5. Abdomen whitish-grey, suffusedly irrorated with dark grey. Legs dark fuscous, apex of joints whitish, femora and posterior tibiæ irrorated with whitish. Forewings triangular, hindmargin bowed ; fuscous, irrorated with black and white ; lines whitish, obscurely darker-margined ; first from $\frac{1}{3}$ of costa to $\frac{2}{5}$ of inner margin, straight ; second from before $\frac{3}{4}$ of costa to $\frac{3}{4}$ of inner margin, moderately angulated outwards in middle, rather deeply sinuate inwards above middle and obtusely angulated inwards on submedian fold ; a narrow transverse cloudy blackish spot in disc above middle ; subterminal cloudy, whitish, very ill-defined, sinuate inwards above and below middle ; a waved blackish hindmarginal line : cilia fuscous irrorated with blackish and whitish, terminal half fuscous-whitish obscurely barred with fuscous. Hindwings with hindmargin rounded ; fuscous, rather darker posteriorly ; a very faint paler sinuate line at $\frac{2}{3}$; a dark fuscous hindmarginal line ; cilia fuscous, tips whitish-fuscous.

Bathurst (2500 feet) and Sydney, New South Wales ; Melbourne, Victoria ; Albany, West Australia ; in November, December, and March, rather common.

44. *Dichr. sigmata*, Walk.

(*Panagra sigmata*, Walk. 1005.)

♀. 21 mm. Forewings fuscous, irrorated with whitish and blackish ; lines whitish, margined with blackish ; first rather bent beneath costa, otherwise straight ; second obtusely angulated in middle, sinuate inwards above middle and more deeply on lower

half; a moderately large narrow transverse blackish spot in disc above middle; subterminal whitish, anteriorly suffusedly margined with dark fuscous, rather irregular; a waved blackish hindmarginal line. Hindwings fuscous.

Said to be from Sydney, New South Wales. The above diagnosis is drawn from incomplete notes taken from the British Museum specimen, which is the only one I have seen; it appears to be a good species, allied to *D. explanata*.

45. *Dichr. orthotis*, n.sp.

♂♀. 21-25 mm. Head and thorax dark fuscous, sprinkled with whitish, blackish, and ferruginous scales. Palpi about 3, dark fuscous, towards base white beneath, upper edge sprinkled with whitish. Antennæ grey, pectinations 5. Abdomen whitish-grey, suffusedly irrorated with dark grey. Legs blackish, apex of joints white, femora and posterior tibiæ irrorated with whitish. Forewings triangular, hindmargin bowed; fuscous; basal area more or less mixed with ferruginous, and coarsely irrorated with black; first line straight, whitish, from $\frac{1}{3}$ of costa to $\frac{2}{5}$ of inner margin, anteriorly margined with deep ferruginous, posteriorly with three or four black dots; median area densely irrorated with whitish, less strongly on costa and inner margin, sometimes partially irrorated with black on veins; a moderate transverse-oblong fuscous black-margined spot in disc above middle; second line almost straight, whitish, from before $\frac{3}{4}$ of costa to $\frac{3}{4}$ of inner margin, dilated on costa, anteriorly margined with black triangular dots, posteriorly with a ferruginous line; hindmarginal area irrorated with black, sometimes with traces of an irregular twice deeply sinuate whitish subterminal line, and a whitish irroration along hindmargin; veins near hindmargin sometimes marked with light ferruginous; a waved blackish hindmarginal line: cilia fuscous, irrorated with blackish and whitish, terminal half fuscous-whitish obscurely barred with fuscous. Hindwings with hindmargin rounded; fuscous; a faint paler slightly curved

line at $\frac{2}{3}$; some white scales towards inner margin; a darker hindmarginal line; cilia fuscous, terminal half fuscous-whitish.

Perth and Albany, West Australia; in November and December; five specimens. Generally, but not always, the contrast between the light median area and the dark basal and hindmarginal areas is very conspicuous.

46. *Dichr. poecilotis*, n.sp.

♂♀. 21-24 mm. Head pale reddish-ochreous on crown, with a few dark fuscous and whitish scales, face whitish irrorated with dark fuscous. Palpi $2\frac{1}{2}$, dark fuscous, towards base white beneath, extreme apex white. Antennæ grey, pectinations 4. Thorax grey, mixed with light ochreous, and irrorated with whitish and a few blackish scales. Abdomen pale grey, sprinkled with dark grey. Legs grey, femora and posterior tibiæ sprinkled with whitish. Forewings triangular, hindmargin rounded, waved; fuscous, towards costa and on basal area sprinkled with whitish; veins, except costal branches, marked with rather thick light reddish-ochreous streaks, interrupted by lines; a blackish mark in disc near base; a curved cloudy blackish transverse line near beyond this; lines slender, whitish; first from $\frac{1}{3}$ of costa to $\frac{2}{5}$ of inner margin, posteriorly blackish-margined, acutely angulated outwards in middle, sinuate inwards above middle; second from about $\frac{2}{3}$ of costa to $\frac{2}{3}$ of inner margin, posteriorly blackish-margined, rather abruptly sinuate inwards above inner margin; a small transverse-oval blackish spot in disc above middle; a fine straight dark fuscous line near beyond second, interrupted by streaks on veins; subterminal formed by whitish irroration, posteriorly hardly defined, anteriorly sharply margined by a thick cloudy dark fuscous shade, deeply sinuate inwards above and below middle; a hindmarginal series of small blackish triangular subconfluent spots: cilia fuscous, irrorated with whitish. Hindwings with hindmargin rounded; fuscous; a faint darker median line; cilia light fuscous, tips more whitish.

Carnarvon and Geraldton, West Australia, in October and November; common.

47. *Dichr. ioneura*, n.sp.

♂♀. 20-25 mm. Head pale reddish-ochreous, face grey-whitish sprinkled with blackish. Palpi $2\frac{1}{2}$, blackish-fuscous, towards base white beneath, upper edge sprinkled with white. Antennæ grey, pectinations 3. Thorax grey, sprinkled with whitish, and spotted with light reddish-ochreous. Abdomen pale grey, ochreous-tinged, sprinkled with dark grey. Legs dark grey, femora and posterior tibiæ irrorated with whitish. Forewings triangular, hindmargin rounded; fuscous, densely irrorated with whitish; veins, except costal branches, marked with rather thick light reddish-ochreous streaks, interrupted by lines; a light reddish-ochreous transverse mark near base; a dark fuscous transverse line about $\frac{1}{4}$, angulated beneath costa; first and second lines whitish on veins, but very obscure and interrupted; first from $\frac{1}{3}$ of costa to $\frac{2}{5}$ of inner margin, interruptedly margined posteriorly with dark fuscous, obtusely angulated outwards beneath costa; second from about $\frac{2}{3}$ of costa to $\frac{2}{3}$ of inner margin, interruptedly margined anteriorly with dark fuscous, somewhat irregular, sinuate inwards towards inner margin; a small transverse dark fuscous spot in disc above middle; a dark fuscous line beyond second, interrupted by streaks on veins, sinuate outwards in middle; subterminal only indicated by cloudy dark fuscous anterior margin, somewhat irregular, tending to be interrupted: cilia fuscous sprinkled with whitish, tips fuscous-whitish. Hindwings with hindmargin rounded; fuscous, somewhat darker posteriorly; cilia fuscous, tips fuscous-whitish.

Perth, West Australia, in October and November; rather common.

48. *Dichr. steropias*, n.sp.

♂♀. 21-24 mm. Head and thorax fuscous irrorated with whitish, with a few dark fuscous scales. Palpi 4-6, grey, more or less mixed with whitish and dark fuscous. Antennæ grey, pectinations 4. Abdomen ochreous-whitish, more or less irrorated with grey. Legs dark fuscous, sprinkled with whitish, apex of joints whitish. Forewings elongate-triangular, hindmargin

rounded ; fuscous, densely irrorated with whitish, and with scattered dark fuscous scales, more or less irregularly suffused in disc with whitish-ochreous ; four small tufts of raised scales, blackish on anterior side, first beneath costa near base, second beneath costa at $\frac{1}{4}$, third in disc before middle, fourth in disc above middle ; lines slender, dark fuscous ; first from $\frac{1}{4}$ of costa to $\frac{1}{3}$ of inner margin, irregular, acutely angulated outwards in middle, passing through second tuft, and angle terminating in third ; second line from $\frac{4}{5}$ of costa to $\frac{3}{4}$ of inner margin, nearly straight, sharply dentate throughout ; subterminal obscurely paler, subdentate, anteriorly margined by a straight cloudy dark fuscous shade running from apex to before anal angle ; an interrupted black hindmarginal line : cilia fuscous, irrorated with whitish. Hindwings with hindmargin rounded ; fuscous, sometimes paler and tinged with whitish-ochreous ; an indistinct darker discal dot ; a cloudy dark fuscous hindmarginal line ; cilia light fuscous, sprinkled with whitish, sometimes whitish-ochreous.

Geraldton and Perth, West Australia, in November ; three specimens. An eccentric species, specially characterised by the tufts on surface of forewings ; the unusually long palpi are also unusually variable in length, and the same peculiarity may be observed in *D. consignata*.

49. *Dichr. orectis*, n.sp.

♂♀. 20-23 mm. Head and thorax pale ochreous or greyish, densely and suffusedly irrorated with whitish, sometimes with scattered blackish scales. Palpi $2\frac{1}{2}$, dark fuscous, towards base white beneath, upper edge sprinkled with white. Antennæ grey, pectinations 5. Abdomen pale greyish-ochreous, sprinkled with dark fuscous. Legs dark fuscous, apex of joints whitish, femora and posterior tibiæ irrorated with whitish. Forewings triangular, hindmargin rounded ; fuscous or light fuscous, densely irrorated with whitish and sprinkled with black ; a blackish dot or transverse mark beneath costa near base ; first line obscurely whitish, from before $\frac{1}{3}$ of costa to $\frac{2}{5}$ of inner margin, posteriorly margined with blackish, sometimes very thickly, nearly straight, slightly

indented in middle; a small transverse spot outlined with blackish in disc above middle; second line obscurely whitish, from $\frac{3}{4}$ of costa to $\frac{3}{4}$ of inner margin, margined anteriorly with a series of small triangular blackish spots, sometimes confluent into a more or less thick black shade, rather sharply angulated outwards in middle, sinuate inwards above middle and more deeply on lower half, central angle marked with a small more or less distinct reddish-ochreous spot; subterminal cloudy, whitish, subdentate, rather irregular, anteriorly margined by a more or less distinct dark grey or blackish shade; a hindmarginal series of triangular black dots: cilia fuscous-whitish, with obscure fuscous bars, and a somewhat interrupted cloudy dark fuscous median line. Hindwings with hindmargin rounded; fuscous, posteriorly darker; a faint darker discal mark; cilia fuscous, terminal half fuscous-whitish.

Geraldton, West Australia; in November and December, common; a variable species. Larva 10-legged, cylindrical; bright green; spiracular line and segmental incisions pale yellowish, partly marked with white; a series of oblique white marks on sides meeting on back: feeds in November on a Myrtaceous shrub of which I failed to obtain the name, resembling *Leptospermum* in habit, with small diamond-shaped leaves crowded and appressed to stem in long shoots: pupa in a slight cocoon. The above larval description is incomplete; the larva is marked and coloured in beautiful imitation of the leafy stems of its food plant, the oblique white lateral lines expressing the outlines of the small crowded stem-clasping leaves.

50. *Dichr. atrosignata*, Walk.

(*Panagra atrosignata*, Walk. 1006; *Eubolia linda*, Butl. Ann. Mag. 1882, 96.)

♂. 18-19 mm. Head and thorax dark fuscous. Palpi $3\frac{1}{2}$, rather dark fuscous, upper edge sprinkled with whitish. Antennæ fuscous, pectinations 6. Abdomen whitish-fuscous irrorated with dark fuscous. Legs dark fuscous, femora and posterior tibiæ irrorated with whitish-ochreous. Forewings triangular, hind-

margin bowed ; fuscous, suffusedly irrorated with whitish-fuscous and coarsely sprinkled with dark fuscous ; lines obscurely paler ; first from $\frac{1}{3}$ of costa to $\frac{2}{5}$ of inner margin, posteriorly margined with dark fuscous or sometimes strongly with blackish, hardly curved ; second from beyond $\frac{2}{3}$ of costa to $\frac{3}{4}$ of inner margin, anteriorly margined with dark fuscous or sometimes strongly with blackish, slightly irregular, slightly curved outwards on upper half and inwards on lower half ; a small transverse dark fuscous sometimes paler-centred spot in disc above middle ; subterminal hardly paler, subdentate, anteriorly suffusedly margined with darker fuscous ; a hindmarginal row of triangular subconnected black dots : cilia pale whitish-fuscous, with a cloudy fuscous line. Hindwings with hindmargin rounded ; fuscous ; a faint darker discal dot ; a faint curved paler line at $\frac{2}{3}$; an interrupted dark fuscous hindmarginal line ; cilia as in forewings.

♀. 23-25 mm. Differs from ♂ as follows : forewings irrorated with whitish ; lines broadly margined with blackish on discal side, except towards costa ; discal spot very small or dot-like ; second line from $\frac{3}{4}$ of costa, rather sharply angulated in middle, sinuate inwards above middle, and more strongly curved and somewhat bent inwards on lower half ; cilia light fuscous irrorated with whitish.

Sydney, New South Wales ; from August to October, and in March and April, common. The variability in the intensity of marking, and the sexual differences make this at first sight rather a perplexing species.

51. *Diclr. euscia*, n.sp.

♂. 25 mm. Head and thorax dark fuscous, finely sprinkled with whitish. Palpi 3, dark fuscous, upper edge sprinkled with whitish. Antennæ grey, pectinations 3. Abdomen fuscous-whitish irrorated with dark fuscous. Legs dark fuscous, femora and posterior tibiæ sprinkled with whitish. Forewings triangular, hindmargin bowed ; fuscous, densely irrorated with whitish and sprinkled with dark fuscous ; a blackish dot on costa at $\frac{2}{5}$, a second in disc at $\frac{2}{5}$, and a third above inner margin at $\frac{1}{3}$; a small blackish

dot in disc above middle ; second line hardly perceptibly paler, from $\frac{3}{4}$ of costa to $\frac{2}{3}$ of inner margin, anteriorly margined by a blackish dot on costa, and on lower $\frac{3}{4}$ by a thick black streak shading into fuscous anteriorly, obtusely angulated outwards in middle, slightly sinuate above middle, gently and evenly curved inwards on lower half ; subterminal hardly paler, rather irregular, anteriorly suffusedly margined with darker : cilia fuscous, basal half irrorated with whitish, terminal half whitish-fuscous. Hindwings with hind margin rounded, apex somewhat prominent ; fuscous, somewhat lighter towards base ; cilia fuscous, towards tips whitish-fuscous.

Blackheath (3500 feet), New South Wales ; in October and November, two specimens.

52. *Dichr. ophiucha*, n.sp.

♂. 21 mm. Head and thorax rather dark fuscous, finely irrorated with whitish. Palpi almost 4, fuscous irrorated with dark fuscous, upper edge sprinkled with whitish. Antennæ grey, pectinations 5. Abdomen whitish-fuscous. Legs dark fuscous sprinkled with whitish. Forewings triangular, hindmargin bowed ; fuscous, finely irrorated with whitish ; a short blackish mark beneath costa almost at base ; a short outwardly oblique blackish streak from costa at $\frac{1}{3}$; a short longitudinal blackish streak in middle of disc ; an obscure cloudy darker dot on costa at $\frac{3}{4}$: cilia fuscous sprinkled with whitish. Hindwings with hindmargin rounded ; pale whitish-fuscous, slightly ochreous-tinged ; cilia fuscous-whitish.

Sydney, New South Wales ; in August and November, two specimens.

53. *Dichr. indicataria*, Walk.

(*Eubolia indicataria*, Walk. Suppl. 1698.)

♂♀. 17-20 mm. Head and thorax rather dark fuscous, finely and densely irrorated with whitish. Palpi $2\frac{1}{2}$, dark fuscous, upper edge sprinkled with white. Antennæ grey, pectinations 4. Abdomen ochreous-grey-whitish, irrorated with dark grey. Legs dark fuscous, finely sprinkled with whitish. Forewings triangular,

hindmargin rounded, waved ; fuscous, finely and densely irrorated with whitish ; lines slightly paler ; first from $\frac{2}{5}$ of costa to $\frac{2}{5}$ of inner margin, posteriorly finely dark-margined, sometimes with blackish, nearly straight, rather irregular ; second from $\frac{2}{3}$ of costa to $\frac{2}{3}$ of inner margin, anteriorly finely margined with darker or sometimes with blackish, very slightly curved outwards on upper $\frac{2}{3}$, shortly dentate throughout ; included median space sometimes suffused with dark fuscous, without whitish irroration ; a fine blackish small transverse-oval ring in disc above middle ; subterminal hardly paler, posteriorly faintly, anteriorly more distinctly dark-margined, twice slightly sinuate ; a blackish waved hindmarginal line : cilia fuscous irrorated with whitish, with obscure indications of darker fuscous bars. Hindwings with hindmargin rounded ; fuscous ; a faint darker discal dot ; cilia fuscous, with a cloudy darker median line, base and tips sprinkled with whitish.

Melbourne, Victoria ; Geraldton and Perth, West Australia ; from October to December, common.

54. *Diclr. molybdaria*, Gn.

(*Panagra molybdaria*, Gn. X. 131 ; *P. carbonata*, Walk. 1004.)

♂♀. 20-25 mm. Head and thorax dark fuscous irrorated with whitish. Forewings fuscous, irrorated with whitish, thinly sprinkled with black ; lines dark fuscous ; first somewhat irregular, from before middle of costa to before middle of inner margin, sinuate outwards beneath costa ; second markedly denticulate throughout, from before $\frac{3}{4}$ of costa to before $\frac{3}{4}$ of inner margin, somewhat curved outwards and more dentate on central third, marked with a more or less distinct reddish-ochreous spot in middle ; included median space often suffused with dark slaty-grey except on costa, but in paler specimens a dark grey discal dot visible ; subterminal slightly paler, waved, preceded by a slightly darker shade ; a widely interrupted fine blackish hindmarginal line ; cilia pale grey. Hindwings fuscous-grey or light grey.

Said to be from Sydney, New South Wales ; five specimens in British Museum Collection, from which this diagnosis is taken, as I have seen no others.

55. *Diclr. estigmaria*, Walk.

(*Panagra estigmaria*, Walk. 1001 ; *P. costinotata*, ib. 1001 ,
Acidalia schistacearia, ib. 1609.)

♂♀. 22-24 mm. Head and thorax greyish-ochreous irrorated with whitish. Palpi $2\frac{1}{2}$, brownish-ochreous, upper edge sprinkled with white, extreme tip white. Antennæ light ochreous spotted with whitish, pectinations 7. Abdomen whitish-ochreous sprinkled with dark fuscous. Legs light brownish-ochreous, posterior tibiæ in ♂ dilated, enclosing tuft of hair of hairs in groove, posterior tarsi in ♂ less than half tibiæ. Forewings triangular, hindmargin bowed ; light brownish-ochreous, greyish-ochreous, or pale fuscous, finely irrorated with ochreous-whitish ; lines hardly perceptibly paler ; first from before middle of costa to before middle of inner margin, angulated immediately beneath costa, where it is margined posteriorly by one or two blackish dots, and sinuate inwards in middle and above inner margin, with a blackish dot on posterior margin in each sinuation ; a fuscous dot in disc above middle ; second line from $\frac{3}{4}$ of costa to before $\frac{3}{4}$ of inner margin, hardly curved, sinuate inwards above and below middle, with a slight bidentate projection outwards in middle, anteriorly margined with indistinct sometimes subconnected blackish dots, sometimes with a small blackish or partly ferruginous spot on median projection ; subterminal hardly perceptibly paler, anteriorly margined by a more or less faint obscure interrupted darker shade, sometimes forming a small cloudy dark fuscous spot on costa ; a widely interrupted black hindmarginal line or series of triangular dots : cilia light fuscous sprinkled with yellow-whitish, terminal half fuscous-whitish. Hindwings with hindmargin rounded ; pale fuscous, sometimes ochreous-tinged ; cilia whitish-fuscous, tips paler.

Sydney and Blackheath (3500 feet), New South Wales ; from October to December, and in February, common. The abbreviated posterior tarsi of the ♂ are a notable special characteristic.

56. *Dichr. ornata*, Walk.

(*Panagra ornata*, Walk. 1004.)

♂♀. 20-21 mm. Head and thorax dark ashy-fuscous. Palpi $2\frac{1}{2}$, dark fuscous, upper edge sprinkled with whitish. Antennæ grey, pectinations 6. Abdomen whitish-grey, irrorated with dark grey. Legs dark fuscous, femora sprinkled with whitish. Forewings triangular, hindmargin bowed; fuscous, finely irrorated with whitish and sprinkled with dark fuscous; a hardly curved series of four blackish dots from $\frac{2}{5}$ of costa to $\frac{2}{5}$ of inner margin; an obscure dark fuscous dot in disc above middle; second line hardly perceptibly paler, from $\frac{4}{5}$ of costa to $\frac{3}{4}$ of inner margin, nearly straight, gently sinuate outwards below costa and in middle, anteriorly edged with a series of blackish dots or sometimes with a thick anteriorly suffused dark fuscous shade; a faint paler subdentate subterminal line, very obscurely edged with darker anteriorly; an interrupted black hindmarginal line: cilia fuscous, sprinkled with whitish. Hindwings with hindmargin rounded; fuscous; a faint paler anteriorly darker-edged sinuate line beyond middle, more distinct towards inner margin; a dark fuscous hindmarginal line; cilia fuscous, sprinkled with whitish.

Sydney and Blackheath (3500 feet), New South Wales; from September to November, and in March, common.

57. *Dichr. ischnota*, n.sp.

♀. 18-19 mm. Head and thorax fuscous, densely irrorated with whitish. Palpi 3, ochreous-fuscous, towards base white beneath, upper edge sprinkled with white, extreme apex white. Antennæ grey spotted with whitish. Abdomen whitish sprinkled with dark fuscous. Legs fuscous sprinkled with whitish. Forewings rather elongate-triangular, hindmargin bowed; fuscous, densely irrorated with whitish and less densely with dark fuscous; lines very obscurely whitish; first from before middle of costa to before middle of inner margin, sharply angulated outwards beneath costa, posteriorly more or less distinctly edged with dark fuscous; second from $\frac{4}{5}$ of costa to $\frac{3}{4}$ of inner margin, slightly sinuate

inwards above middle and more strongly on lower half, anteriorly more or less distinctly margined with dark fuscous; included median space with lower half sometimes ochreous-fuscous mixed with blackish, without white irroration; an obscure whitish subdentate twice sinuate subterminal line, anteriorly suffusedly margined with dark fuscous; an interrupted blackish hindmarginal line: cilia fuscous, sprinkled with whitish. Hindwings with hindmargin rounded; fuscous; a faint paler sinuate line at $\frac{2}{3}$; an interrupted dark fuscous hindmarginal line; cilia fuscous, sprinkled with whitish.

Carnarvon, West Australia, in October; two specimens.

58. *Dichr. triparata*, Walk.

[*Panagra triparata*, Walk. 1005; *P. molybdaria*, ib. 995 (nec Gn.).]

♂♀. 20-22 mm. Head and thorax dark ashy-fuscous with a few blackish scales. Palpi $3\frac{1}{4}$, dark fuscous, base slightly sprinkled with whitish. Antennæ grey, pectinations $3\frac{1}{2}$. Abdomen whitish-fuscous, suffusedly irrorated with dark grey. Legs dark fuscous, apex of joints whitish, femora and posterior tibiae irrorated with whitish. Forewings triangular, hindmargin waved, bowed; fuscous, finely irrorated with whitish and sprinkled with dark fuscous; three nearly straight cloudy indistinct dark fuscous lines between base and first line, central one broad, other two very slender; first and second lines cloudy, blackish, less marked towards costa; first from before middle of costa to middle of inner margin, straight; second from $\frac{2}{3}$ of costa to before $\frac{2}{3}$ of inner margin, forming a short angular projection in middle, slightly sinuate inwards above and more strongly below this; included median space almost without whitish irroration, forming a narrow dark band, on lower half sometimes suffused with blackish; a blackish linear transverse mark in disc above middle; a slender cloudy dark fuscous line near beyond and parallel to second line, more sinuate outwards beneath costa, marked with a cloudy ochreous spot in middle; subterminal slender, obscure, whitish, rather irregular, margined by suffused darker shades; an obscure

brownish-ochreous suboblique dash from hindmargin beneath apex, appearing to enclose with subterminal line a more whitish diamond-shaped apical spot ; a waved black hindmarginal line : cilia fuscous, basal half sprinkled with whitish, tips whitish. Hindwings with hindmargin rounded ; fuscous, towards hindmargin rather darker ; three short whitish dark-margined streaks from inner margin above anal angle ; a dark fuscous hindmarginal line ; cilia fuscous, with some whitish points.

Sydney, New South Wales ; Melbourne, Victoria ; Albany, West Australia ; from August to December, common.

59. *Diclr. consignata*, Walk.

(*Panagra consignata*, Walk. 1006 ; *P. petrilineata*, ib. 1008.)

♂♀. 22-25 mm. Head and thorax dark fuscous densely irrorated with white. Palpi $3\frac{1}{2}$ -5, fuscous irrorated with dark fuscous, upper and lower margins irrorated with white. Antennæ grey, pectinations $4\frac{1}{2}$. Abdomen pale whitish-fuscous, with a few dark fuscous scales. Legs dark fuscous irrorated with white. Forewings triangular, hindmargin bowed ; fuscous, very densely irrorated with white, and with scattered dark fuscous scales ; lines moderately broad, obscurely whitish, margined on both sides with dark fuscous ; first from before middle of costa to before middle of inner margin, slightly sinuate outwards on upper half and inwards on lower half, margins more or less strongly thickened on lower half ; second from $\frac{5}{6}$ of costa to $\frac{3}{4}$ of inner margin, sinuate inwards above middle and again below middle ; a small narrow transverse blackish spot in disc above middle ; subterminal obscurely whitish, terminating above in apex, more or less strongly sinuate outwards in middle, anteriorly rather strongly margined and sinuation filled with blackish, separated from second line by a light ochreous shade becoming whitish towards costa, posteriorly suffusedly margined with dark fuscous ; a waved black hindmarginal line : cilia fuscous, densely irrorated with white, tips more or less white. Hindwings with hindmargin slightly rounded, apex somewhat prominent ; light fuscous ; an obscure darker discal dot ; some-

times a faint paler line at $\frac{2}{3}$; a dark fuscous hindmarginal line; cilia fuscous, base paler, terminal half sprinkled with whitish.

Bathurst (2500 feet), New South Wales; Perth and Albany, West Australia; from October to December, common.

60. *Dichr. stilbiata*, Gn.

(*Liodes stilbiata*, Gn. X. 120, pl. XVIII. 4; *Panagra plusiata*, Walk. 1007.)

♂♀. 23-28 mm. Head and thorax dark fuscous, more or less sprinkled with whitish. Palpi 2, dark fuscous, upper edge sprinkled with whitish. Antennæ grey, pectinations 5. Abdomen pale whitish-fuscous, sprinkled with fuscous. Legs dark fuscous, femora irrorated with whitish, posterior tibiæ in ♂ with tuft of hairs enclosed in groove. Forewings triangular, hindmargin rounded; rather dark fuscous, densely irrorated with white on basal area and more or less partially in disc and posteriorly, except towards costa; veins partially and irregularly marked with black in disc and posteriorly; a cloudy dark fuscous transverse mark at $\frac{1}{5}$, not reaching margins; first line obscurely whitish, from before middle of costa to $\frac{2}{5}$ of inner margin, angulated outwards beneath costa but generally indistinct, posteriorly margined on lower half with blackish; a small narrow transverse blackish spot in disc above middle; base of veins 3 and 4 forming a small triangular black spot before second line; second line cloudy, white, broader towards costa, from $\frac{1}{5}$ of costa to $\frac{3}{4}$ of inner margin, bent-sinuate inwards above inner margin, anteriorly irregular-edged, posteriorly separated by a fine dark fuscous line from a cloudy parallel fine indistinct whitish line; subterminal indistinct, cloudy, whitish, subdentate, terminating above in apex, abruptly sinuate outwards below middle; hindmargin suffused with whitish; a waved black hindmarginal line: cilia whitish barred with fuscous, with an ill-defined fuscous median line. Hindwings with hindmargin rounded; fuscous; a faint darker discal dot; a very faint paler line at $\frac{2}{3}$; a dark fuscous hindmarginal line; cilia as in forewings, but fuscous-tinged and more obscure.

Sydney, Blackheath (3500 feet), and Mount Kosciusko (5000 feet), New South Wales; Melbourne, Victoria; Deloraine and Hobart, Tasmania; Mount Lofty, South Australia; from October to February, common.

61. *Dichr. confluaria*, Gn.

(*Panagra confluaria*, Gn. X. 131, pl. vii. 8.)

♂♀, 24-32 mm. Head dark fuscous irrorated with white. Palpi $3\frac{1}{4}$, dark fuscous, towards base white beneath, upper edge white. Antennæ grey, pectinations 6. Thorax dark fuscous, shoulders and a posterior spot whitish. Abdomen whitish-ochreous, more or less sprinkled with dark fuscous. Legs dark fuscous, femora sprinkled with whitish. Forewings triangular, hindmargin rounded; dark fuscous; a cloudy white streak beneath costa from base, reaching costa before apex; first line white, from before middle of costa to $\frac{1}{4}$ of inner margin, very acutely angulated outwards on subcostal streak, so as to reach $\frac{3}{5}$, upper portion slender, lower broad and containing a central cloudy ochreous line, rather sinuate inwards above inner margin; second line from $\frac{5}{6}$ of costa to $\frac{4}{5}$ of inner margin, fuscous-ochreous, margined on both sides with white throughout, slightly angulated outwards above middle, thence to inner margin moderately curved inwards; subterminal nearly straight, cloudy, white; a white streak along hindmargin from apex to anal angle; a black hindmarginal line: cilia fuscous, basal half sometimes sprinkled with whitish, terminal half whitish with faint fuscous bars. Hindwings with hindmargin slightly rounded, apex rather prominent; pale fuscous; an obscure darker discal dot; a faint paler anteriorly darker-edged line at $\frac{2}{3}$, and traces of two extremely faint similar lines between this and hindmargin; a dark fuscous hindmarginal line; cilia as in forewings.

Blackheath (3500 feet), New South Wales; Melbourne, Victoria; Deloraine, Tasmania; Albany, West Australia; from October to December, common.

62. *Dichr. personalis*, Feld.

(*Colobochila personalis*, Feld. pl. cxx. 20.)

♂♀. 24-29 mm. Head whitish or whitish-fuscos. Palpi $2\frac{1}{2}$ -3, dark fuscous, upper edge white. Antennæ grey-whitish, pectinations 5. Thorax white, collar and patagia fuscous-tinged, apex and inner side of patagia blackish. Abdomen fuscous-whitish, sprinkled with dark fuscous. Legs fuscous, femora and posterior tibiæ dark fuscous irrorated with paler, posterior tibiæ of ♂ dilated, enclosing tuft of hairs in groove. Forewings somewhat elongate-triangular, hindmargin slightly rounded; pale whitish-fuscous, with a few scattered dark fuscous scales; dark markings margined with whitish-ochreous; a slender cloudy dark fuscous streak along costa throughout; a rather large elongate-triangular blackish spot in middle of disc; a broad blackish subdorsal streak from base of inner margin to anal angle, lower edge straight, leaving a narrow dorsal streak of groundcolour, upper edge with a broad triangular projection before middle, and posteriorly triangularly dilated to coalesce with a narrow subterminal fascia from near apex, of which the anterior edge is slightly sinuate, posterior edge triangularly dilated in middle, upper extremity attenuated; a fine dark fuscous hindmarginal line: cilia grey-whitish, with a cloudy fuscous line. Hindwings with hindmargin slightly rounded, apex somewhat prominent; fuscous; a darker discal dot; a sinuate obscurely darker posterior line; cilia fuscous.

Perth and Albany, West Australia, in November and December; in swampy thickets, common.

7. *OENONE*, n.g.

Face clothed with long fine erect hairs. Tongue developed. Antennæ in ♂ filiform, simple. Palpi moderate, subascending, rather slender, with appressed scales, clothed with long fine projecting hairs. Thorax with fine erect hairs above, densely hairy beneath. Forewings with vein 10 connected by bar with 9. Hindwings with veins 6 and 7 approximated at base or short-stalked.

Doubtless an early type, having near relationship to *Dichromodes* on the one hand and the European genus *Brephos* on the other. It would appear to have been brought into close competition with the ancestors of *Dichromodes*, and to have been worsted, surviving only in the mountains of Tasmania. Similarly *Brephos* has only maintained itself in Europe by becoming adapted to the wintry climate of the earliest spring.

Hindwings orange..... 63. *solaris*.

Hindwings dark fuscous, with a white blotch... 64. *lunaris*.

63. *Oen. solaris*, n.sp.

♂. 23 mm. Head blackish, face and sides whitish. Palpi whitish, mixed with blackish hairs. Antennæ blackish. Thorax and abdomen blackish, with a few white scales on segmental margins. Legs dark fuscous, apex of joints whitish. Forewings elongate-triangular, costa slightly sinuate, hindmargin rounded; ochreous-fuscous, densely and suffusedly irrorated with blackish-fuscous; several short longitudinal pale yellowish marks in disc towards base; first line thick, cloudy, blackish-fuscous, from $\frac{1}{3}$ of costa to before middle of inner margin, somewhat curved; an obscure whitish dot in disc, suffusedly margined with darker; second line whitish, becoming fuscous-tinged beneath, suffusedly dark-margined, from $\frac{3}{4}$ of costa to $\frac{3}{4}$ of inner margin, waved, slightly outwards-curved, slightly sinuate near inner margin; an irregular fine subterminal line indicated by whitish scales: cilia fuscous mixed with dark fuscous (imperfect). Hindwings with hindmargin rounded; bright deep reddish-orange; some blackish scales towards costa; a narrow blackish band from apex along hindmargin to anal angle, where it is extremely slender, thence along inner margin to base where it is suffusedly dilated; cilia whitish-fuscous mixed with blackish.

Mount Wellington (3500 feet), Tasmania, in December; one specimen.

64. *Oen. lunaris*, n.sp.

♂. 21-23 mm. Head blackish, with some yellow-whitish scales, face yellow-whitish. Palpi whitish, mixed with blackish hairs.

Antennæ blackish. Thorax blackish, patagia and posterior margin sprinkled with pale ferruginous. Abdomen blackish, segmental margins with some white scales. Legs dark fuscous. Forewings elongate-triangular, costa slightly sinuate, hindmargin rounded; dark fuscous mixed with blackish, and sprinkled with pale ferruginous; lines obscure, formed by a whitish irroration; first from $\frac{1}{4}$ of costa to $\frac{2}{5}$ of inner margin, posteriorly suffusedly dark-margined, moderately curved; second from $\frac{2}{3}$ of costa to $\frac{3}{4}$ of inner margin, anteriorly suffusedly dark-margined, rather irregular, somewhat sinuate outwards in middle and inwards above inner margin; subterminal irregular, preceded by a darker suffusion: cilia dark fuscous, with indistinct bars formed by a whitish irroration. Hindwings with hindmargin rounded; rather dark fuscous; a large cloudy white somewhat trapezoidal blotch occupying whole of disc; cilia rather dark fuscous; tips whitish.

Mount Wellington (4100 feet), Tasmania; common, flying freely over the rocky ground on the extreme summit, in December.

8. ASPILATES, Tr.

Face smooth. Tongue developed. Antennæ in ♂ bipectinated throughout. Palpi moderate, porrected, shortly rough-scaled or with rather appressed scales. Thorax sometimes hairy beneath. Forewings with vein 10 anastomosing or connected by bar with 9 or separate. Hindwings with veins 6 and 7 stalked or approximated at base.

The species referred by Lederer to this genus are heterogeneous in character, some of them not even belonging to this family; I have restricted the genus to those whose structure is as above. It then consists only of some half dozen European and Asiatic species, representing perhaps the fragments of a formerly more numerous group.

65. *Asp. chordota*, n.sp.

♂. 32 mm. Head dark fuscous. Palpi white, externally dark fuscous except on basal joint. Antennæ white. Thorax hairy beneath, dark fuscous, anterior margin, and inner margin of

patagia white. Abdomen whitish. Legs dark fuscous, posterior tibiæ white. Forewings very elongate-triangular, hindmargin rather obliquely rounded, somewhat waved; 10 connected with 9 by bar; dark fuscous, ochreous-tinged; all veins and submedian fold marked with rather strong white lines; an indistinct transverse whitish line rather near and parallel to hindmargin; cilia white. Hindwings with hindmargin somewhat bent on vein 3, anal angle rather prominent; 6 and 7 approximated at base; whitish; a crescentic grey discal spot; a moderate hindmarginal band slightly fuscous-tinged; a fuscous hindmarginal line; cilia white.

Melbourne, Victoria; one specimen (Coll. Lucas). A very distinct and interesting species.

9. EUMELEA, Jard.

Face with slight projection of scales. Tongue developed. Antennæ long ($\frac{5}{6}$ or almost 1), in ♂ filiform, simple. Palpi moderately long, ascending, second joint rough-scaled, terminal joint rather slender, cylindrical, porrected. Thorax, femora, and posterior tibiæ hairy beneath. Forewings with vein 11 anastomosing first with 12 and then strongly with 10. Hindwings with veins 6 and 7 stalked.

A small Indo-Malayan genus, of which one wide-ranging species extends into the tropical regions of Australia. The slenderness and length of the legs and antennæ give it an abnormal appearance in this group. It may probably be regarded as a special development from the neighbourhood of *Aspilates*; I have an undescribed closely allied genus from Burmah which possesses unipectinated antennæ in the ♂.

66. *Eum. rosalia*, Cr.

(*Eumelea rosalia*, Cr., Gn. IX. 392.)

♂. 48-54 mm. Head yellow, spotted with crimson-red. Palpi crimson, beneath yellow. Antennæ whitish-ochreous, becoming crimson towards base. Thorax light yellow, anterior margin crimson. Abdomen light yellow, suffusedly irrorated with light

crimson. Legs pale yellowish, femora and tibiæ partly crimson. Forewings somewhat elongate-triangular, hindmargin slightly rounded; light yellow, densely strewn with short suffused ferruginous-orange sometimes crimson-tinged transverse strigulae; the yellow colour often forms a small clear spot at apex, and sometimes others above and below disc beyond middle, and in middle of hindmargin; costa finely strigulated with dark purplish-fuscous, on basal fourth suffused with purplish; a curved transverse purplish-crimson streak from $\frac{1}{4}$ of costa to before $\frac{1}{3}$ of inner margin, sometimes nearly obsolete; a slightly curved transverse purplish-crimson streak from beyond middle of costa to beyond middle of inner margin; a more or less perceptible variable purplish-crimson subterminal fascia: cilia purplish-crimson, sometimes marked with yellow dots. Hindwings with hindmargin waved, rounded; colour and markings as in forewings, but costal strigulae and first transverse streak absent; second transverse streak central, straight.

Townsville and Cairns, Queensland; three specimens. Also from New Guinea, the Solomon Islands, and Ceylon.

10. XENOMUSA, n.g.

Face smooth. Tongue developed. Antennæ in ♂—? Palpi very short, porrected, rough-scaled. Forewings with vein 10 out of 9. Hindwings with veins 6 and 7 approximated at base, 8 fused with cell at a point near base.

The ♂ is unfortunately unknown; I suspect, however, that the antennæ may be unipectinated. The genus is peculiar, but affords a valuable connecting link between the preceding and following groups.

67. *Xen. monoda*, n.sp.

♀. 41 mm. Head, palpi, antennæ, thorax, abdomen, and legs whitish-ochreous; forehead with an irregular blackish bar, face white; antennæ partially dotted with fuscous; legs ringed with dark fuscous. Forewings somewhat elongate-triangular, costa

sinuate, apex acute, subfalcate, hindmargin deeply sinuate beneath apex, thence bowed; whitish-ochreous, slightly brownish-tinged, strewn with short scattered dark grey transverse strigulæ; a straight cloudy grey streak, somewhat mixed with ochreous, from apex to middle of inner margin, broadest beneath, interrupted near upper extremity, thence to near inner margin marked with a fine cloudy blackish line: cilia rather dark fuscous, tips fuscous-whitish. Hindwings with hindmargin rounded; colour, strigulæ, and cilia as in forewings, but base paler; a straight cloudy fuscous streak, mixed with ochreous and a few blackish scales, from middle of costa to middle of inner margin, posteriorly suffusedly margined with yellow-ochreous, especially towards middle; beyond this suffusion a moderate roundish cloudy fuscous spot in disc above middle, beneath which is an obscure pale dot.

Melbourne, Victoria; one specimen received from Dr. T. P. Lucas, who possesses others.

11. ONYCHODES, Gn.

Face smooth. Tongue developed. Antennæ in ♂ bipectinated to apex, in ♀ also very shortly bipectinated. Palpi short, porrected, rough-scaled. Thorax densely hairy beneath. Forewings with vein 11 anastomosing with 12. Hindwings with veins 6 and 7 somewhat approximated at base.

These characters are drawn from *O. lutosaria*, as I have not been able to examine a specimen of *O. traumataria*, which is the type of Guénée's genus; the definition may therefore require modification, or it may even prove that the two species cannot be justly included together. So far as the structural characters are given by Guénée, they appear to agree. I have corrected the erroneous spelling of Guénée's generic name.

Forewings with a dark fuscous spot above anal

angle 68. *traumataria*.

Forewings without a dark fuscous spot above

anal angle..... 69. *lutosaria*.

68. *Onych. traumataria*, Gn.

(*Onycodes traumataria*, Gn. IX. 143, pl. ix. 8.)

♂♀. 35-40 mm. Forewings with costa somewhat concave, apex strongly produced, hindmargin concave beneath apex, bowed; hindwings with hindmargin rounded. Wings rosy-fulvous, cilia reddish-brown or purplish; hindwings suffused with ochreous-yellow on costal half. A median series of more or less distinct dull red spots crosses all the wings, and often forms a narrow fascia on hindwings, which are strewn with longitudinal (?) striæ of the same colour. Forewings with an apical spot mixed with brown, reddish, and white; a similar spot near anal angle, and an obscure costal streak preceding apical spot. The ♀ is more rosy and less yellow, the apical spot sometimes forming the commencement of a dentate line.

Hobart, Tasmania; I have seen a specimen taken by Mr. G. F. Mathew, but unfortunately omitted to describe it at the time. The above description is translated from Guénée, only altering the terminology so far as to make it correspond sufficiently with that used by myself; it is, however, poor and confused. His figure, though not very good, is characteristic, and for the rest the species is easily enough recognisable.

69. *Onych. lutosaria*, Feld.

(*Arhodia lutosaria*, Feld. pl. cxxiv. 15-17.)

♀. 60 mm. Head dark ochreous-fuscous, with a white band above palpi, and a broad whitish-rosy band between antennæ. Palpi rosy, base ochreous-yellow. Antennæ whitish, towards base rosy. Thorax yellow-ochreous, with a rosy spot on shoulders. Abdomen yellow, irrorated with rosy, base more whitish, apex and a dorsal series of pairs of spots rosy. Legs yellow spotted with rosy. Forewings elongate-triangular, costa sinuate, apex acute, strongly produced, hindmargin deeply concave beneath apex, strongly bowed, very oblique beneath; light yellow-ochreous, brownish-tinged, with a few scattered purplish dots; a dark purplish-

fuscous suffusion along basal fifth of costa ; three dark purplish-fuscous oblique transverse spots on costa at $\frac{1}{5}$, $\frac{2}{5}$ and $\frac{3}{5}$, and three similar spots on inner margin at $\frac{1}{3}$, $\frac{1}{2}$, and $\frac{2}{3}$; a small dark purplish-fuscous discal spot beyond middle ; an oblique dark fuscous streak from apex, suffused above with rosy, and towards apex beneath with a dark grey cloud, with a series of three small dark purplish-fuscous spots between its extremity and third dorsal spot ; four dull rosy spots in a transverse series above anal angle, and two others towards hindmargin above middle : cilia rosy. Hindwings with hindmargin rounded ; yellow, thinly speckled with rosy ; a small round rosy discal spot ; inner margin obscurely strigulated with white and black ; a short irregular white transverse streak from inner margin at $\frac{2}{3}$, speckled and margined with black, followed beneath by a broad dull fuscous-rosy patch, connected with costa by a double series of rosy dots ; cilia yellow, on lower half of hindmargin deep rosy.

♂ smaller, forewings more brownish or rosy-tinged, more uniform ; no dorsal spots, discal spot, or subapical streak ; markings reduced to costal spots, and two transverse dotted lines.

Fernshaw, Victoria ; two specimens (Coll. Lucas). Felder's figures are in this instance good.

12. *ARRHODIA*, Gn.

Face densely scaled. Tongue developed. Antennæ in ♂ bipectinated to apex. Palpi moderate, subascending, second joint rather shortly rough-scaled, terminal joint short. Thorax stout, densely hairy beneath. Anterior tibiæ with subapical hook, posterior tibiæ without middle-spurs, tarsi not spinulose. Forewings with vein 6 from close below 9, 10 free. Hindwings with veins 6 and 7 approximated at base.

Perhaps a development of *Gastrophora* ; this and the next four genera form a closely allied group of singular facies and unusually stout build. The generic name is misspelt by Guénée *Arhodia*, which I have corrected.

70. *Arrh. lasiocamparia*, Gn.

(*Arhodia lasiocamparia*, Gn. IX. 186; *A. retractaria*, Walk. 282; *Nigasa subpurpurea*, ib. 287; *Arhodia semirosea*, ib., Trans. Ent. Soc. Lond. I. (3 s.), 267.)

♂♀. 50-62 mm. Head and thorax pale brownish-ochreous, in ♀ more whitish. Palpi whitish. Antennæ whitish, pectinations light ochreous. Abdomen ochreous-whitish, in ♂ more ochreous on back. Legs light ochreous, posterior tibiæ ochreous-whitish, tarsi slightly rosy-tinged. Forewings triangular, in ♀ more elongate, hindmargin nearly straight, oblique, slightly sinuate near apex; pale brownish-ochreous, in ♀ sprinkled with dark purple-fusca scales; a small cloudy fuscous spot on inner margin beyond middle; a sinuate series of dark purplish dots from $\frac{5}{8}$ of costa to $\frac{3}{4}$ of inner margin, in ♂ indistinct or obsolete: cilia fuscous, at apex and anal angle whitish-ochreous. Hindwings with hindmargin rounded; in ♂ dull reddish or purplish, in ♀ ochreous-whitish, more ochreous-tinged posteriorly and with fine scattered purplish scales; a slightly curved and sinuate cloudy purplish-fuscous line at $\frac{2}{3}$; sometimes a dark fuscous dot in disc before this; cilia ochreous-whitish, in ♂ rosy-tinged. Forewings beneath with a large deep purple-fuscous blotch in disc towards hindmargin.

Sydney, New South Wales; Melbourne and Warragul, Victoria; Mount Lofty, South Australia; six specimens.

13. GASTROPHORA, Gn.

Face loosely haired. Tongue developed. Antennæ in ♂ strongly bipectinated to apex. Palpi rather short, densely scaled, terminal joint short, thick. Thorax stout, densely hairy beneath. Tarsi not spinulose. Forewings with veins 6 out of 9, 10 connected with 9 by bar. Hindwings with veins 6 and 7 stalked.

Probably a development of *Monoctenia*.

71. *Gastr. henricaria*, Gn.

(*Gastrophora henricaria*, Gn. IX, 187, pl. xxi, 4).

♂. 65 mm. Head white, face grey-whitish, forehead with a thick black transverse line. Palpi white, upper longitudinal half

black. Antennæ and thorax whitish. Abdomen whitish, sometimes purple-blackish on back. Legs white, speckled with black, anterior pair blackish. Forewings elongate-triangular, costa gently arched, hindmargin almost straight, oblique; very pale whitish-grey, slightly ochreous-tinged, or whitish-ochreous; sometimes a black dot near inner margin at $\frac{2}{5}$; a nearly straight strong black line from beyond middle of costa to beyond middle of inner margin: cilia blackish. Hindwings with hindmargin rounded; deep orange; a purplish-black basal patch, outer edge irregular, running from costa towards base to $\frac{2}{3}$ of inner margin; a thick black rather irregular streak from $\frac{2}{3}$ of costa to $\frac{2}{3}$ of inner margin; a tolerably parallel row of small black spots midway between this and hindmargin; cilia whitish. Undersurface pale whitish-grey; forewings with disc orange, and a very large posterior black blotch, containing towards its upper anterior angle two superposed cloudy violet-bluish spots, each including anteriorly a white transverse mark.

♀. 85 mm. Forewings with hindmargin sinuate, with small fine scattered dark grey strigulæ; black line absent; two cloudy fuscous lines, first median, somewhat curved, second at $\frac{3}{4}$, nearly straight.

Melbourne, Victoria; Mount Lofty, South Australia; three specimens.

14. PHALLARIA, Gn.

Face with dense scales. Tongue developed. Antennæ in ♂ bipectinated to apex. Palpi moderate, subascending, second joint clothed with dense projecting scales, terminal joint moderate, cylindrical. Thorax stout, densely hairy beneath. Anterior tibiæ with small apical spine, all tarsi spinulose. Forewings with vein 10 connected with 9 by bar. Hindwings with veins 6 and 7 approximated at base.

A development of *Monoctenia*.

72. *Phall. ophiusaria*, Gn.

(*Phallaria ophiusaria*, Gn. IX, 186; *Oenochroma quaternaria*, HS. Exot. 541.)

♂♀. 62-75 mm. Head fuscous, with a broad white fillet between antennæ. Palpi whitish-fuscous. Antennæ whitish, pectinations fuscous. Thorax fuscous, posteriorly more whitish-fuscous. Abdomen whitish-fuscous. Legs whitish-fuscous spotted with dark fuscous. Forewings rather elongate-triangular, hindmargin slightly sinuate beneath apex, thence strongly bowed; fuscous, strewn with numerous small darker transverse strigulæ, sometimes tinged with reddish-brown; costal edge sometimes very narrowly white; three or four small cloudy darker spots forming a curved series at $\frac{1}{3}$; a short transverse linear transparent whitish mark in disc, margined with blackish; an indistinct straight slender fuscous-whitish streak from beyond middle of inner margin towards apex but not quite reaching it, posteriorly obscurely margined with darker and with a series of cloudy dark fuscous dots, sometimes followed by a reddish-brown streak: cilia reddish-brown, terminal third blackish. Hindwings with hindmargin waved, rounded; colour and cilia as in forewings; a straight transverse streak as in forewings, but running from middle of costa to middle of inner margin.

Sydney and Bathurst (2500 feet), New South Wales; Warragul, Victoria; Mount Lofty, South Australia; four specimens. I once possessed, but failed to rear, what I have been told was the larva of this species; a large 12-legged dull brown larva, feeding on *Leptospermum* and *Kunzea*; it was exceedingly sluggish in habit.

15. MONOCTENIA, Gn.

Face with dense protuberant scales. Tongue developed. Antennæ in ♂ unipectinated, towards apex simple. Palpi moderate, subascending, second joint clothed with dense projecting scales, terminal joints subovate. Thorax stout, densely hairy beneath. Anterior tibiæ in ♂ with apical hook, all tarsi spinulose. Forewings with vein 10 connected with 9 by bar. Hindwings with veins 6 and 7 approximated at base.

The genus is at present confined to Australia. The species are very retired in habit in the imago state, and it is not unlikely

that their number may yet be considerably increased by rearing the larvæ, of which little is known. I have been able to obtain very few specimens for examination, and as they appear often to vary considerably in colour, the descriptions here given may prove incomplete.

- | | |
|---|---------------------------|
| 1. Hindwings with hindmargin crenate, at least in part | 2. |
| Hindwings with hindmargin crenate, at most waved | 3. |
| 2. Pale postmedian line dentate..... | 77. <i>smerintharia</i> . |
| Pale postmedian line not dentate | 75. <i>digglesaria</i> . |
| 3. Hindwings with hindmargin almost straight | 4. |
| Hindwings with hindmargin rounded..... | 5. |
| 4. Wings rosy, with a straight pale postmedian line | 74. <i>vinaria</i> . |
| Wings ochreous-grey, without pale line..... | 79. <i>subustaria</i> . |
| 5. Forewings with a large darker triangular costal blotch..... | 78. <i>falernaria</i> . |
| Forewings without a large darker triangular costal blotch | 6. |
| 6. Forewings with three nearly straight reddish lines | 73. <i>ochripennata</i> . |
| Forewings without three nearly straight reddish lines | 76. <i>obtusata</i> . |

73. *Mon. ochripennata*, Walk.

(*Phallaria ochripennata*, Walk. 284; *Diamuna gastropacharia*, ib. 289.)

♂♀. 55 mm. Head and thorax fuscous. Forewings formed nearly as in *M. falernaria*, but hindmargin entire; fuscous; a faint rosy straight line from $\frac{1}{3}$ of costa to $\frac{1}{3}$ of inner margin, and a similar slightly sinuate line from $\frac{3}{5}$ of costa to middle of inner margin; a fuscous-reddish nearly straight line, obscurely margined anteriorly with paler, posteriorly with darker, from

costa before apex to $\frac{3}{4}$ of inner margin: cilia fuscous-reddish. Hindwings with hindmargin rounded; dull purplish-rosy, becoming light fuscous towards anal angle; second and third lines as in forewings, but only visible on dorsal half; cilia rosy, becoming fuscous-red on lower half of hindmargin.

West Australia; two specimens in the British Museum collection, from which the above diagnosis is drawn.

74. *Mon. vinaria*, Gn.

(*Oenochroma vinaria*, Gn. IX. 185, pl. VII. 2; *Balliace vetustaria*, Walk. 290.)

♂♀. 45-52 mm. Head pale brownish-ochreous, face suffused with purplish-rosy. Palpi, thorax, and abdomen light purplish-rosy. Antennæ rosy, towards apex more whitish, pectinations pale ochreous. Legs light purplish-rosy, apex of joints dark grey. Forewings elongate-triangular, apex acute, subfalcate, hindmargin suddenly sinuate beneath apex, thence bowed, oblique; pale ochreous, more or less wholly suffused with light purplish-rosy, posteriorly with a few faint cloudy grey strigulae; a nearly straight cloudy grey line from $\frac{1}{3}$ of costa to before $\frac{1}{3}$ of inner margin, preceded by an indistinct pale yellowish suffusion; a small cloudy roundish dark grey discal spot, containing a fine transverse linear transparent mark; a nearly straight cloudy pale yellowish line from costa before apex to $\frac{3}{5}$ of inner margin, anteriorly partially margined with bright ferruginous preceded suffusedly by dark grey; a hindmarginal ferruginous-orange line, becoming blackish near apex: cilia deep ferruginous-brown. Hindwings with hindmargin almost straight, slightly waved; colour and cilia as in forewings; a straight dark purplish-fuscous transverse streak from middle of costa to middle of inner margin, becoming bifurcate towards costa, on lower $\frac{2}{3}$ posteriorly ferruginous and followed by an ochreous-yellow suffusion. Forewings beneath with a large round cloudy deep purple-fuscous blotch near inner margin before anal angle.

Townsville, Queensland; Sydney, New South Wales; Mount Lofty, South Australia; four specimens. Bred by Mr. G. H.

Raynor from a larva feeding on *Hakea*; the larva is stated by Guénée, however, to feed on *Acacia* (perhaps in error), and is described as being 12-legged, with a horn on third segment and two tubercles on eleventh.

75. *Mon. digglesaria*, Gn.

(*Monoctenia digglesaria*, Gn., Ann. Soc. Fr. IV. [4 ser.], 15.)

55 mm. Wings crenulate; forewings acute, subfalcate, hindmargin strongly bowed; hindwings strongly bent in middle, forming a more prominent tooth, and another at anal angle; all wings rosy-grey; a common rosy-whitish line from apex of forewings to $\frac{2}{3}$ of inner margin of hindwings, followed by a darker shade, and preceded by small darker dots on veins; a series of darker dots representing first line; a darker median shade, hardly traceable on forewings, but straight and well-marked on hindwings. Forewings beneath with a large deep brown spot towards inner margin.

Locality given only as Australia. The above diagnosis is drawn from Guénée's description; I have seen no insect agreeing with it; it appears to indicate a good and distinct species.

76. *Mon. obtusata*, Walk.

(*Monoctenia obtusata*, Walk. 279; *M. himeroides*, ib. 279.)

♀. 54 mm. Head ochreous-whitish, face suffusedly mixed with dark fuscous-red. Palpi ochreous-whitish mixed with dark fuscous-red. Antennæ whitish. Thorax pale whitish-grey-ochreous. Abdomen fuscous-whitish sprinkled with blackish. Legs ochreous-whitish, irrorated and barred with deep fuscous-red. Forewings elongate-triangular, costa sinuate, apex produced, hindmargin rather deeply sinuate beneath apex, thence strongly bowed, very oblique; pale greyish-ochreous, sprinkled with dark fuscous; lines partially indicated by dark fuscous dots but hardly traceable except on costa, where they form slender short dark fuscous marks at $\frac{1}{3}$ and $\frac{3}{4}$, and a larger oblique cloudy fuscous mark in middle, containing a transverse-linear transparent mark in its apex, and indicating an angulated median shade: cilia fuscous-whitish, more

or less mixed and suffusedly dotted with dark fuscous, towards apex more or less wholly dark fuscous. Hindwings with hindmargin rounded, waved, slightly sinuate above anal angle; pale greyish-ochreous, sprinkled with dark fuscous, especially towards apex; a slightly curved cloudy fuscous median line, marked with a small darker spot above middle, containing a transverse linear transparent mark; cilia pale greyish-ochreous. Forewings beneath with a large round cloudy blackish-fuscous blotch towards hindmargin below middle.

Melbourne, Victoria; according to Walker also from Tasmania; one specimen.

77. *Mon. smerintharia*, Feld.

(*Monoctenia smerintharia*, Feld. pl. cxxiv. 18, 19.)

♀. 74 mm. Head and palpi deep ferruginous, crown paler. Thorax and abdomen grey irrorated with whitish. Wings formed as in *M. falernaria*, but hindmargin crenate; reddish-grey; a common obscurely pale dentate line running from apex of forewings to $\frac{2}{3}$ of inner margin of hindwings, anteriorly margined by a thick dark suffused shade, obsolete towards costa: cilia ferruginous, with darker spots on veins.

Locality uncertain; one specimen (Austr. Mus. Coll.).

78. *Mon. falernaria*, Gn.

(*Monoctenia falernaria*, Gn. IX. 184; *M. fraternaria*, ib. pl. VII. 3.)

♂♀. 56-82 mm. Head pale whitish-fuscous, face dark fuscous-purplish, suffused with whitish-ochreous towards lower part. Palpi fuscous-purplish. Antennæ ochreous-whitish, pectinations ochreous. Thorax and abdomen pale flesh-colour. Legs fuscous, femora more purplish. Forewings elongate-triangular, hindmargin sinuate beneath apex, thence strongly bowed, oblique, waved on upper portion; rosy-purplish-ochreous, densely and suffusedly irrorated with pale greyish-ochreous, and strewn with blackish-grey scales; the absence of pale irroration forms an obscurely darker triangular

blotch extending on costa from before middle to $\frac{4}{5}$, its apex resting on vein 2 beneath middle of disc, its margins obscurely subdentate, sometimes suffusedly margined with dark fuscous and then with faint cloudy paler lines continued as one to inner margin; a small cloudy dark grey spot resting on inner margin beyond middle: cilia pale greyish-ochreous, base mixed with reddish, with small dark fuscous spots on veins. Hindwings with hindmargin rounded, slightly waved; colour and cilia as in forewings; the dark grey irroration forms a cloudy sinuate fascia before middle, followed by a light greyish-ochreous fascia without dark irroration; cilia of inner margin whitish.

Bathurst (2300 feet), New South Wales; also from Victoria and Tasmania; three specimens.

79. *Mon. subustaria*, Walk.

(*Phallaria subustaria*, Walk. 283; *Hypographa privata*, ib. 286; *H. hypotaeniaria*, Gn., Ann. Soc. Fr. IV. (4 ser.) 15.)

♂. 40-42 mm. Head grey, slightly ochreous-tinged. Palpi whitish, with a few deep purple scales, towards apex grey. Antennæ grey-whitish, sometimes reddish-tinged, spotted with dark grey, pectinations ochreous. Thorax ochreous-grey, sometimes whitish posteriorly. Abdomen grey or whitish, with fine scattered purplish or black scales. Legs whitish, irrorated and ringed with blackish-crimson. Forewings elongate-triangular, apex acute, hindmargin sinuate beneath apex, thence bowed, oblique, waved; ochreous-grey, with some fine scattered black scales; costal edge sometimes white from near base to near apex; costa more or less marked with short blackish strigulæ; sometimes a small deep reddish cloudy spot on costa at $\frac{3}{5}$, with faint traces of a curved reddish or fuscous transverse shade proceeding from it; a reddish-black discal dot; a curved line of reddish-black dots from $\frac{4}{5}$ of costa to $\frac{3}{4}$ of inner margin: cilia ochreous whitish, terminal half irregularly deep reddish or blackish. Hindwings with hindmargin nearly straight; colour and cilia as in forewings, but more whitish towards base of wing; a more or less distinct straight median fascia formed by reddish irroration, sometimes

marginated with blackish, narrowed towards inner margin, anterior edge sinuate, posterior dentate. Hindwings and sometimes also forewings beneath with a well-defined moderately broad median fascia formed by dark reddish-fuscous irroration, attenuated or becoming obsolete towards inner margin, posterior edge dentate, curved.

Sydney, New South Wales, in March; three specimens.

16. HYPOGRAPHA, Gn.

Face with a broad rounded horny projection, more or less concealed in dense projecting scales. Tongue developed. Eyes fringed with long cilia above and beneath. Antennæ in ♂ unipectinated, apex simple. Palpi moderate, subascending, second joint with long projecting hairs beneath, terminal joint moderate, somewhat swollen towards apex. Thorax stout, long-haired, beneath densely hairy. Tarsi spinulose. Forewings with vein 6 from point with or out of 9, 10 touching 9 at a point, 11 anastomosing with 12. Hindwings with veins 6 and 7 stalked or separate, 8 anastomosing with cell from near base to beyond middle.

This is a very singular genus. In the structure of vein 8 of the hindwings it departs from the family type, and assumes a character otherwise possessed only by the *Larentiade*; but it is absolutely certain from a consideration of the whole of the structural characters that its place is here, and that it is in fact nearly allied to *Monoctenia*. The unipectinated antennæ, very stout thorax, spinulose tarsi, and different neurulation of forewings are conclusive against its reference to the *Larentiade*. The ciliated eyes and horny frontal projection are curious exceptional characters, probably indicating some ancestral reversion. In superficial appearance the species approach the *Notodontide*. I have no doubt that the genus may be regarded as developed collaterally with *Monoctenia* from a common ancestor, which was the direct progenitor of the whole of the thick-bodied group of this family. The anastomosis of vein 8 in the hindwings has arisen quite

independently of the similar structure in the *Larentiadae*, and no affinity is implied by it, as the preponderance of other character shows; indeed, it might perhaps have been expected to arise independently more often, in which case the distinction of the families could not have been maintained.

- | | |
|---|----------------------------|
| 1. Hindwings white on basal half..... | 2. |
| Hindwings not white on basal half..... | 3. |
| 2. Forewings with a blackish mark on costa at $\frac{1}{3}$ | 80. <i>hiracopis</i> . |
| Forewings without a blackish mark on costa | |
| at $\frac{1}{3}$ | 81. <i>serpentaria</i> . |
| 3. Forewings with a straight dark fuscous | |
| fascia beyond middle..... | 83. <i>atmoscia</i> . |
| Forewings without a straight dark fuscous | |
| fascia beyond middle..... | 82. <i>phlegetonaria</i> . |

80. *Hyp. hiracopis*, n.sp.

♂. 38 mm. Head whitish, somewhat mixed with dark fuscous, face suffused with dark fuscous. Palpi whitish mixed with blackish. Antennæ whitish sprinkled with grey, pectinations ochreous. Thorax whitish mixed with fuscous hairs. Abdomen whitish irrorated with dark fuscous, two basal segments ochreous. Legs dark fuscous, partially irrorated with white. Forewings very elongate-triangular, costa subconcave, hindmargin rounded, strongly dentate; fuscous, densely and suffusedly strewn throughout with whitish; costa shortly strigulated with dark fuscous; veins marked with fine dark fuscous lines; a short oblique blackish mark from costa at $\frac{1}{3}$, whence proceeds a very fine partially obsolete very deeply dentate dark fuscous line to inner margin before middle; an indistinct fuscous median shade from $\frac{3}{5}$ of costa to $\frac{3}{5}$ of inner margin, darker and more distinct in disc, strongly curved outwards on upper half; a very fine very deeply dentate dark fuscous line from $\frac{3}{4}$ of costa to $\frac{2}{3}$ of inner margin; a rather broad straight very ill-defined fuscous shade from apex to inner margin before anal angle; a fine dark fuscous hindmarginal line: cilia fuscous irrorated with whitish, tips whitish. Hindwings

with hindmargin rounded, dentate; 6 and 7 stalked; white, thinly scaled, posteriorly suffused with pale fuscous; veins on posterior half rather dark fuscous; a faint subdentate fine fuscous line at $\frac{3}{4}$; a fine dark fuscous hindmarginal line; cilia fuscous, suffusedly barred with whitish, tips whitish.

South Australia; one specimen. It is possible that this might be the other sex of the following species, but as Guénée's description, though incomplete, differs from it in very many details, I have not felt justified in uniting them.

81. *Hyp. serpentaria*, Gn.

(*Hypographa serpentaria*, Gn., Ann. Soc. Fr. IV. [4 ser.] 15.)

♀. Rather smaller than *H. phlegetonaria*, wings similarly formed, deeply dentate; forewings ashy-grey, wholly occupied by sinuous and contorted black lines, anteriorly margined with lighter grey; ordinary lines perceptible but entangled; an annular reniform discal spot; second line forming strong unequal teeth; an interrupted black hindmarginal line. Hindwings white from base to end of cell, thence dark grey crossed by three sinuate-dentate blackish lines, margined with white on inner margin, not reaching costa and anal angle, which are white. Underside of hindwings white with a dark fuscous central lunule and hindmarginal band.

Locality given as Australia only. The above description is modified from that of Guénée, who states his type to be in poor condition.

82. *Hyp. phlegetonaria*, Gn.

(*Hypographa phlegetonaria*, Gn. IX, 190, pl. xix. 2.)

♂♀. 36 mm. Wings strongly dentate, blackish-grey, costa and base of cilia partly white; forewings with a blackish discal spot and four indistinct cloudy denticulate lines, most distinct on costa; first isolated, other three parallel and at equal distances; hindwings with three similar lines, first median, nearly straight, other two somewhat curved. Abdomen fuscous, ante-apical segment white at base, anal segment wholly whitish.

Tasmania. I have seen but unfortunately neglected to describe specimens of this species; the above diagnosis is taken from Guénée's description and figure, of which the former is very incomplete and partially unintelligible; I have endeavoured to interpret it by the aid of the figure, which is pretty good. It is an easily recognisable species.

83. *Hyp. atmoscia*, n.sp.

♀. 33 mm. Head, palpi, and thorax dark fuscous densely irrorated with whitish. Antennæ fuscous. Abdomen whitish-fuscous sprinkled with dark fuscous. Legs dark fuscous. Forewings rather elongate-triangular, costa slightly sinuate, hindmargin rounded, crenate; fuscous, irrorated with whitish; a somewhat curved fine black line from beyond $\frac{1}{3}$ of costa to before $\frac{1}{3}$ of inner margin, indented above middle; a straight narrow dark fuscous fascia from $\frac{3}{5}$ of costa to $\frac{3}{5}$ of inner margin, anterior edge blackish, well-marked, posterior edge gradually suffused; a very fine subdentate blackish line from $\frac{4}{5}$ of costa to $\frac{3}{4}$ of inner margin, rather deeply sinuate inwards above middle and less deeply on lower half; some fine scattered blackish scales beyond this: cilia fuscous irrorated with whitish (imperfect). Hindwings with hindmargin slightly rounded, crenate; 6 and 7 separate; whitish-fuscous, with scattered dark fuscous scales; a straight cloudy fuscous central fascia, anterior edge tolerably distinct, posterior suffused; cilia fuscous mixed with whitish (imperfect).

Perth, West Australia; in November, one specimen.

APPENDIX.

The following species, referred by Guénée and Walker to the immediate neighbourhood of those included in this family are either wrongly so referred, or unidentifiable.

84. *Panagra fictiliaria*, Gn. X. 129. A clay-yellow species, described from ♀ only; I cannot identify it at all, but imagine it is probably wrongly placed here.

85. *Panagra nullata*, Gn. X. 130. A unicolorous yellowish-grey species, which appears unidentifiable, and is only conjecturally supposed to be Australian; it may be safely neglected.

86. *Panagra sparsularia*, Gn. X. 131, pl. XII. 4. Wrongly placed here; belongs to the *Boarmiadae*.

87. *Panagra diffusaria*, Gn. X. 132. An obscure unidentified species, perhaps referable to the *Larentiadae*.

88. *Panagra subvelaria*, Walk. 1000. No type seen; a *Taxeotis*, but unidentifiable.

89. *Panagra aviata*, Walk. 1001. Not fully identified, but appears to belong to *Boarmiadae*.

90. *Panagra ferritinctaria*, Walk. 1002. Belongs to *Boarmiadae*.

91. *Panagra approximata*, Walk. 1002; *P. intercalata*, ib. 1012. Belongs to *Larentiadae*.

92. *Panagra extentata*, Walk. 1012. Belongs to *Noctuina*.

93. *Panagra inostentata*, Walk. 1012. Belongs to *Noctuina*.

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